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MAY 26 1981

Item 830-H-15

NAS 1.60:1759

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NASA Technical Paper 1759

Pressure and Force Data for a Flat Wing and a Warped Conical Wing Having a Shockless Recompression at Mach 1.62

David S. Miller, Emma Jean Landrum,
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APRIL 1981

NASA

(234)

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Scientific and Technical
Information Branch

1981

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SUMMARY

A conical nonlinear flow computer code was used to design a warped (cambered) wing which would produce a supercritical expansion and shockless recompression of the crossflow at a lift coefficient of 0.457, an angle of attack of 10°, and a Mach number of 1.62. This cambered wing and a flat wing with the same thickness distribution were tested over a range of Mach numbers from 1.6 to 2.0. For both models the forward 60 percent is purely conical geometry. Results obtained with the cambered wing demonstrated the design features of a supercritical expansion and a shockless recompression, whereas results obtained with the flat wing indicated the presence of crossflow shocks. Tables of experimental pressure, force, and moment data are included, as well as selected oil flow photographs.

INTRODUCTION

Supersonic fighter aircraft designs often result in wings with less sweep and higher cruise lift coefficients than those of supersonic transport type configurations. Future fighter configurations are expected to require maneuver wings, that is, wings with efficient performance at lift coefficients approximately twice those of cruise conditions. The combination of high lift and transonic Mach number normal to the wing leading edge presents supersonic design conditions considerably removed from the normal range of application of linear-theory design methodology.

In the design of highly swept wings, the crossflow velocity field plays the dominate role in establishing the flow-field characteristics, as pointed out by Jones in reference 1. Under supersonic maneuvering conditions, the crossflow velocities become transonic; therefore, a nonlinear analysis method is required in order to predict the flow field. A discussion of this phenomena has been described by Brown, McLean, and Klunker in reference 2. A controlled expansion and subsequent recompression of the crossflow velocities is required for maneuver wings and has been described in more detail in reference 3. The nonlinear analysis tool employed in designing the cambered wing is described in reference 4.

Experimental test programs reported in the literature show no investigations relevant to the wing design conditions described above. The present investigation was conducted in order to provide such information; an overview of this investigation was presented in reference 5, and the details are presented in the present paper. A simplified wing geometry was employed to provide detailed experimental results for validation of the numerical method being developed to design wings with these types of nonlinear flows.

Pressure, force, moment, and flow visualization data were obtained on a warped (cambered) and a symmetrical (flat) conical wing model. The tests were conducted over a range of Mach number M from 1.6 to 2.0 at angles of attack α from approximately -4° to 12° and at a Reynolds number of 6.6×10^{6} per meter with free and fixed transition and a Reynolds number of 13.1×10^{6} per meter with free transition.

Oil flow photographs of the upper surface were obtained for the flat wing with fixed transition at $M = 1.70$ and $\alpha \approx 2^{\circ}$, 4°, and 6° and for the cambered wing with fixed transition on the left wing panel only at $M = 1.62$ and $\alpha \approx 10^{\circ}$, 11°, and 12°.

SYMBOLS

The moment reference point is at 62 percent of the overall length of the models and 1.905 cm (0.75 in.) below the model reference line.

b	span
C_A	axial-force coefficient with base and cavity axial force removed, $\frac{\text{Axial force}}{q_{\infty}S}$ (CA in computer-generated tables)
$C_{A,B}$	axial force of wing base (CAB in computer-generated tables)
$C_{A,C}$	axial force of model housing cavity (CAC in computer-generated tables)
C_D	drag coefficient with base and cavity drag removed, $\frac{\text{Drag}}{q_{\infty}S}$ (CD in computer-generated tables)
$C_{D,B}$	drag coefficient of wing base (CDB in computer-generated tables)
$C_{D,C}$	drag coefficient of model housing cavity (CDC in computer-generated tables)
$C_{D,o}$	drag coefficient at zero lift
ΔC_D	incremental drag-due-to-lift coefficient, $C_D - C_{D,o}$
$C_{L_{\alpha}}$	lift-curve slope, $\frac{\Delta C_L}{\Delta \alpha}$, per radian

C_L	lift coefficient, $\frac{\text{Lift}}{q_\infty S}$ (CL in computer-generated tables)
C_m	pitching-moment coefficient, $\frac{\text{Pitching moment}}{q_\infty S \ell}$ (CM in computer-generated tables)
C_N	normal-force coefficient, $\frac{\text{Normal force}}{q_\infty S}$ (CN in computer-generated tables)
C_p	local pressure coefficient, $\frac{p - p_\infty}{q_\infty}$ (CP in computer-generated tables)
C_{root}	root chord length, 60.96 cm (24 in.)
L/D	lift-drag ratio
ℓ	model length, 60.96 cm (24 in.) (L in computer-generated plots and tables)
M	free-stream Mach number (MACH in computer-generated plots)
M_c	crossflow Mach number
M_n	Mach number normal to leading edge
p	local static pressure
p_∞	free-stream static pressure
q_∞	free-stream dynamic pressure
R/m	free-stream Reynolds number per meter (RE/M in computer-generated tables; Re/m in computer-generated plots)
S	reference wing area, 2122.6 cm^2 (329 in^2)
t/c	thickness-to-chord ratio
x	longitudinal distance measured from model apex (X in computer-generated plots and tables)

y	spanwise distance measured from model center line
z	vertical distance measured from model reference plane
Δz	incremental thickness added to upper surface to reduce shock strength
α	angle of attack, deg (ALPHA in computer-generated plots and tables)
β	$= \sqrt{M^2 - 1}$
δ_f	angle between horizontal and circular-arc camber line at wing leading edge
ϵ	exponent on z terms in superellipse thickness distribution
η	conical coordinate, $\frac{y \tan \Lambda}{x}$ (ETA in computer-generated plots and tables)
Λ	leading-edge sweep angle, deg

Subscripts:

cp	center of pressure
LE	leading edge

MODELS

Description of Models

The cambered model was a clipped delta wing with approximately the first 60 percent of the model length being purely conical and designed to demonstrate a controlled supercritical expansion and recompression of the crossflow velocity. In this conical region, the nonlinear conical flow analysis method of reference 4 was used to design the surface shape. The design procedure consisted of initially examining pressure distributions and lifting forces produced by parametrically varying wing thickness, camber, and angle of attack. From this parametric study, a geometry was selected which produced the desired conical wing lift coefficient of approximately 0.480 at an angle of attack of 10° and a Mach number of 1.62; however, a weak crossflow shock remained on the upper surface. At this point in the design procedure, smooth upper-surface geometry changes were made in the vicinity of the crossflow shock until the shock was totally eliminated. The details of the conical wing design are presented in appendix A.

The leading-edge sweep was 57°, which for a design Mach number of 1.62 corresponds to $\beta \cot \Lambda = 0.828$ and $M_n = 0.88$. The conical portion of the wing was designed in the presence of an 8° half-circular cone placed under the wing to house the force balance and two scanning-valve pressure transducers. A smooth surface fairing was made from the pure conical geometry to a constant thickness geometry. The wing tip was cut back in order to keep wing area and span within tunnel-test-section limits. The resulting thick trailing edge was recessed, and the balance housing half-cone was truncated at a butt line of 6.03 cm and a water line of -5.080 cm. These cuts were smoothed by 1.27-cm-radius fairings.

The flat wing employed the same planform and thickness distribution as that of the cambered wing and was tested in order to obtain pressure data containing crossflow shocks and the volumetric wave drag.

Figure 1 shows the model layout of the cambered wing, and figure 2 shows the midspan chordwise sections and the spanwise section shapes for the conical portion of both the flat wing and the cambered wing. The ordinates for these conical spanwise sections are presented in tables I and II. Numerical descriptions for both model geometries are presented in tables III and IV in the form described in reference 6. In order to verify geometric accuracy prior to testing, both models were inspected with a numerical recording measuring machine. The models were within 0.01 cm of the design surface shape over the entire leading edge.

Instrumentation

Each model was instrumented with 79 pressure taps located as shown in figure 3. There were four spanwise rows of pressure orifices on the wing surfaces. For ease of installation, the upper-surface orifices were located on the left side of the model, and the lower-surface orifices were located on the right side. The first two rows at $x/\ell = 0.450$ and 0.550 were located in the conical region; the row at 0.550 was the most densely instrumented, and the row at 0.450 was less densely instrumented and was used for checking the conicity of the flow. The rows of orifices at values of x/ℓ larger than 0.6 were included to obtain nonconical pressure data. To determine base drag, four taps were located in the recessed base of the wing. Balance-cavity static pressure was measured with pressure tubes located inside the model in the vicinity of the balance.

Aerodynamic forces and moments were measured by a six-component strain-gage balance that was housed within the model. The balance was attached to a sting which in turn was rigidly fastened to the model support system of the tunnel. Angle of attack was measured with an accelerometer located in the model support sting.

TESTS

Tunnel Description

The tests were conducted in the low Mach number test section of the Langley Unitary Plan Wind Tunnel, which is a variable Mach number, variable-pressure, continuous-flow tunnel. The test section is approximately 1.22 m square. (See ref. 7 for a more detailed description of this facility.) A picture of the cambered model installed in the wind tunnel is shown in figure 4.

Test Conditions and Corrections

Tests were conducted at the following test conditions:

Mach number	Stagnation temperature, K	Stagnation pressure, kPa	Reynolds number per meter
1.60	325	51.2	6.6×10^6
1.62	325	51.9	6.6
1.66	325	52.6	6.6
1.70	325	53.3	6.6
1.86	325	56.1	6.6
2.00	325	60.0	6.6
1.62	325	103.9	13.1

Angle of attack ranged from approximately -4° to 12°. The measured angle of attack was corrected for tunnel-flow angularity and for the deflection of the balance and sting under load. Flow-angle corrections were determined for both the cambered wing and the flat wing from upright and inverted runs of the flat wing.

Transition strips composed of No. 60 carborundum grit were placed on the model along a ray through the apex such that at an x/ℓ station of 0.550 (the main row of pressure taps) the strip was 1.0 cm back from the center of the leading edge, along the streamwise arc, and about 0.32 cm wide.

Pressure data were obtained from two internally mounted, 48-port scanning valves. Force data were obtained simultaneously. The force data presented herein have been adjusted to free-stream conditions by accounting for both the balance-cavity and the wing-base axial forces. After all the pressure results were obtained, oil flow photographs were taken using fluorescent oil under ultraviolet illumination.

Accuracy

The estimated accuracies are based on a dynamic pressure of 22.98 kPa (the nominal dynamic pressure for a Mach number of 1.62 and a Reynolds number of 6.6×10^6 per meter).

Pressure data.- The accuracy of the scanning-valve system is better than 0.25 percent of the gage range (51.71 kPa). When expressed as a pressure coefficient, this accuracy is better than ± 0.0056.

Force data.- Given the quoted balance accuracy of 0.5 percent at maximum load, the various parameters can be estimated to be accurate to within the following limits:

$$C_A = \pm 0.0005$$

$$C_N = \pm 0.0002$$

$$C_m = \pm 0.0005$$

RESULTS AND DISCUSSION

Pressure results are presented in the tables of appendix B, and force and moment results are presented in the tables of appendix C.

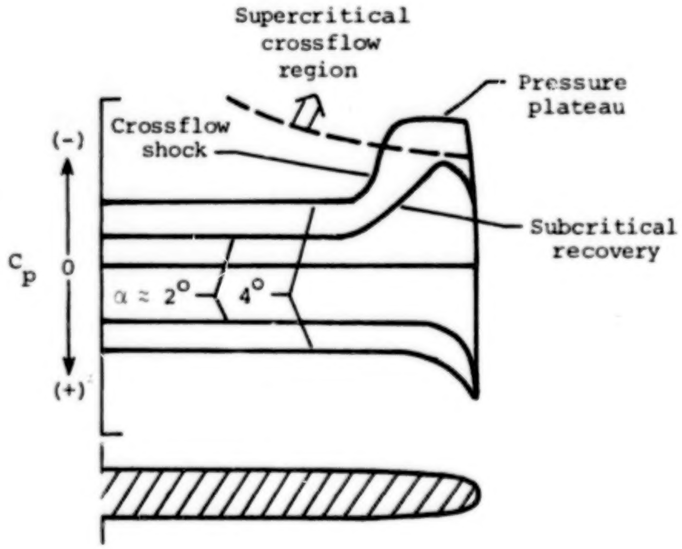
Pressure Results

All pressure data are presented as spanwise distributions in the figures.

Conicity check.- The conicity of the flow field can be verified by comparing the results at $x/\ell = 0.55$ with measurements made on a secondary row of pressure taps located at $x/\ell = 0.45$. Comparisons of the pressures at these two stations for some representative flow conditions for both the flat wing and the cambered wing are shown in figures 5 to 10. Results for the flat wing with free transition are presented in figures 5 and 6; for the flat wing with fixed transition, in figures 7 and 8; and for the cambered wing with fixed transition, in figures 9 and 10. Generally, the results show that the flow field was in fact very nearly conical, although in some cases the shock position and strength varied slightly.

Effect of angle of attack.- The basic experimental pressure distributions were obtained at the main conical flow pressure location of $x/\ell = 0.55$ and are plotted for several angles of attack at each Mach number in figures 11 to 14. The flat-wing results for free-transition tests at R/m of 6.6×10^6 are presented in figure 11. The results at an increased R/m of 13.1×10^6 are presented in figure 12. At this higher Reynolds number, results were obtained only at the design Mach number of 1.62, and angle of attack was limited to 5.84° due to balance-force limitations. The fixed-transition results for the flat wing at the lower Reynolds number are shown in figure 13.

Figure 13(c), which shows the results for a Mach number of 1.70, provides an excellent basis for describing the basic features of the flat-wing pressure distributions. At $\alpha = -0.18^\circ$, the wing has a positive lift due to the pressure field induced by the conical housing on the lower surface. At $\alpha = 1.83^\circ$, the flow expands about the leading edge and then recompresses in a typical subcritical crossflow recovery. At $\alpha = 3.81^\circ$, the flow expands to nearly constant pressure plateau, and the recompression is accomplished through a crossflow shock wave, which appears as a very clean jump in pressure. These features are indicated in the following sketch:



Although the boundary layer acts to spread the pressure jump over several displacement thicknesses, the shock wave is still very distinct. At $\alpha = 5.81^\circ$ the pressure plateau is not as constant and the shock wave is not as distinct, indicating that there is probably some flow separation at the shock. Because the results for a Mach number of 1.70 clearly illustrated the various types of crossflow, M = 1.70 was selected for the oil flow photographs, which are discussed in the section "Oil Flow Results."

The cambered-wing pressure results on the main conical flow pressure row are shown in figure 14. These results were all obtained with fixed transition at $R/m = 6.6 \times 10^6$. In contrast to the flat wing, which had pressure distributions typical of current wing designs (in which little attention is paid to the control of the supersonic crossflow), the cambered wing has remarkably smooth upper-surface pressure distributions. In particular, at the design Mach number of 1.62 (fig. 14(b)) the flow at higher angles of attack expands to a broad pressure plateau and then recompresses gently. The theoretical results, shown by the critical pressure coefficient line in figure 14(b), indicate that the crossflow should be supercritical at angles of attack above 8°. The experimental results show that at $\alpha = 9.91^\circ$ (near the design angle of attack of 10°) the pressure plateau has not quite filled out. At $\alpha = 10.92^\circ$, the pressure plateau is constant and is terminated by a gradual recompression. As the angle of attack is increased to 11.97°, the flow appears to expand further just ahead of the recompression, which steepens and apparently forms a weak shock wave. These cambered-wing results and similar results at Mach numbers of 1.60, 1.66, and 1.70 (figs. 14(a), (c), and (d)) indicate that stable supercritical flow and a recompression without a crossflow shock can be established over a range of conditions near the design Mach number and angle of attack. Oil flow photographs that correspond to these conditions are presented later.

For the supersonic leading-edge cases of $M = 1.86$ and $M = 2.00$ (figs. 14(e) and (f)), the character of the flow over the cambered wing changes substantially. No constant pressure plateau is observed, and the flow expands continuously until the recompression begins. At the smallest angle of attack shown, this recompression starts near $\eta = 0.6$ for $M = 1.86$ and $\eta = 0.55$ for $M = 2.00$ and moves inboard with increasing angle of attack. At the low angles of attack, no crossflow shock is evident, but a shock appeared to develop as the angle of attack increased.

Effect of Mach number.- Mach number effects on the spanwise pressure distributions for the flat wing and the cambered wing are illustrated in figures 15 and 16, respectively. Results are presented at a constant angle of attack over a range of Mach numbers. The comparisons for the flat wing at a nominal angle of attack of 0° (fig. 15(a)) show that the upper-surface pressures inboard of the leading edge are very insensitive to Mach number while the lower-surface pressures change slightly. Figures 15(b), (c), and (d) show more pronounced Mach number effects and also show the change in the character of the expansion around the leading edge. Figure 15(c) best demonstrates the change from a very low pressure expansion at $M = 1.60$ and $M = 1.62$ to reduced levels at the higher Mach numbers. At $M = 2.00$, the flow expands continuously to the shock wave. The results of a similar survey for the cambered wing (fig. 16) show, as expected, that the lower-surface pressure distributions have the same character and trends with Mach number as for the flat wing. On the upper surface, the differences are confined to the outboard portion of the wing where nonlinear effects are apparently important. There is an obvious change in the character of the leading-edge expansion pressure distributions between the subsonic leading-edge cases ($M = 1.60$, 1.62, 1.66, and 1.70) and the supersonic leading-edge cases ($M = 1.86$ and 2.00).

Effect of transition.- In order to illustrate the difference between laminar and turbulent boundary-layer flows, a number of pressure-distribution comparisons between free- and fixed-transition tests of the flat wing are presented in figures 17 to 19. As expected, the results were in very close agreement for the lower surface and inboard portions of the upper surface. However, there were a number of interesting differences for portions of the flow with adverse pressure gradients. The low angle-of-attack ($\alpha \approx 2^{\circ}$) subcritical cases (fig. 17) are excellent examples in which the laminar flow cannot negotiate even a shockless recompression without separating; also, a typical separation bubble pressure distribution is very evident. The laminar flow then reattaches and the pressure level returns to that of the turbulent-flow case. At $\alpha = 4^{\circ}$, a crossflow shock wave forms and the pressure distributions demonstrate the classical shock laminar boundary-layer interaction plateaus (figs. 18(c), (d), and (e)). When viewed in the crossflow plane, these figures show distinctly the upstream influence of the interaction, leading to a slight pressure plateau and then a compression to the downstream value. At $\alpha \approx 6^{\circ}$ the free- and fixed-transition results are not very different at the shock location for the lower Mach numbers of 1.60 to 1.70. (See figs. 19(a) to 19(c).) Presumably, the shock strength is sufficient to separate the flow in both cases, and no sharp pressure recovery is evident. At the higher Mach numbers of $M = 1.86$ and $M = 2.00$ (figs. 19(d) and (e)), the turbulent boundary-layer case shows a much sharper recovery than the laminar case.

Effect of Reynolds number.- An assessment of Reynolds number effects was made by doubling the Reynolds number and testing the flat wing with free transition at $M = 1.62$ up to the maximum balance-force angle of attack of 6°. The results are shown in figure 20. As expected, the slight differences are confined to the region of adverse pressure gradient in which the higher Reynolds number case does show a slightly stronger pressure recovery. The more erratic pressure distributions of the higher Reynolds number are attributed to the oscillations of the model in the tunnel.

Comparison with theory.- A number of comparisons have been made between the experimental results and the inviscid, irrotational theoretical predictions obtained from the COREL program (ref. 4) used to design the wings. In figure 21, the inviscid theory is compared with the fixed-transition flat-wing data for a number of selected cases. The general pressure levels on the upper and lower surface are predicted quite well, as are the crossflow shock locations. The character of the agreement between theory and experiment is consistent for all Mach numbers. The cambered-wing results are compared in figure 22. The predicted plateau levels are slightly lower than the experimental levels. However, the overall predictions are good. A few details, such as the leading-edge expansion predictions, may benefit from further improvement in the inviscid method.

Oil Flow Results

Oil flow photographs and corresponding pressure distributions are presented in figure 23 for the flat wing at $M = 1.70$ and in figure 24 for the cambered wing at

$M = 1.62$. Because of the conical nature of the flow which was shown in figures 7, 8, 9, and 10, the oil flow features at any crossflow plane (x/ℓ station) forward of the pressure orifices should be similar; therefore, discussion of these photographs will be confined to this region and flow features can be identified by the spanwise η location of their occurrences.

Flat wing.- The flat wing has fixed transition on both sides of the wing. At $\alpha \approx 2^{\circ}$ (fig. 23(a)) the flow appears to be entirely conical. Note that there is a pronounced turning of the flow as it moves inboard of the transition strip. At the main pressure tap station ($x/\ell = 0.550$) this turning takes place over an η range of 0.78 to 0.85. This range of η corresponds to the region in which the rapid recompression is taking place, as shown by the pressure distribution in figure 23(a).

At $\alpha \approx 4^{\circ}$, the details of the oil flow are indicated by the sketch in figure 23(b). A distinct line (accumulation of oil) begins to appear at a spanwise η of 0.89; the corresponding location in the pressure distribution reveals no reason for the presence of such a line. Inboard of this line, there is a second turning of the flow. The corresponding pressure distribution clearly shows that the second turning corresponds to the crossflow shock wave ($\eta \approx 0.77$). Aft of the main pressure tap station (where the model begins to change from conical), the distinct line which was along a conical ray turns parallel to the leading edge. However, the shock wave apparently continues to be conical in nature. At $\alpha \approx 6^{\circ}$ (fig. 23(c)), the oil flow details identified at $\alpha \approx 4^{\circ}$ are more pronounced but are otherwise similar. For the flat wing the oil flow patterns inboard of the crossflow shock show straight streamwise flows; this is consistent with the absence of any spanwise pressure gradient, as shown in the experimental pressure results.

Cambered wing.- The oil flows on the cambered wing (fig. 24) are considerably different in nature from those on the flat wing. The details of the oil flows are indicated by the sketch of figure 24(a). A transition strip was applied to the left-hand side of the wing only, and this discussion will be confined to the fixed-transition side. At the design angle of attack (10°), the outboard portion of the wing shows a very well-behaved flow developed over the cambered surface (fig. 24(a)). However, there is a distinct line of oil from the apex along a ray of $\eta = 0.69$ up to approximately $x/\ell = 0.350$. There is nothing in the pressure distribution to explain the phenomena. Similar results are shown at $\alpha \approx 11^{\circ}$ (fig. 24(b)), except that at an η station of 0.60 a more concentrated turning of the flow takes place. At $\alpha \approx 12^{\circ}$ (fig. 24(c)), this turning becomes more distinct; and at this location the pressure distribution shows the beginning of the crossflow recompression, which may develop into a weak crossflow shock wave at higher angles of attack. On the inboard portion of the wing, the streamlines diverge from the center line at all three angles of attack, which is consistent with the spanwise pressure gradient observed in the experimental pressure results.

Force and Moment Results

Longitudinal force and moment results are presented in figures 25 to 30. Figure 25 shows that in the range tested the curves of both α versus C_L and C_m versus C_L are linear. The slopes of these curves are essentially the same for both the flat wing and the cambered wing. (Note that conical design lift coefficient of 0.457 is not obtained by the cambered wing at the design angle of attack of 10° because the wing is not conical over approximately the last 40 percent of the model length.) The results from the α versus C_L plots show that the cambered wing requires an angle of attack of an additional $2\frac{1}{2}^{\circ}$ in order to achieve the same lift coefficients as the flat wing. The experimental lift-curve-slope results, along with typical linear and nonlinear (conical) theory results, are summarized in figure 26. Linear theory results, obtained from the method of reference 8 for the actual wing planform and from reference 9 for a delta wing planform having the same leading-edge sweep are presented; nonlinear conical theory results are presented for a delta wing planform for both the flat-wing and the cambered-wing spanwise section shapes. Both experimental and nonlinear theoretical results show the lift-curve slope of the cambered wing to be larger than that of the flat wing; linear theory lift-curve slopes are independent of wing camber. Results for the longitudinal location of the center of pressure x_{cp} are shown in figure 27. Experimental results show little difference in centers of pressure between the flat wing and the cambered wing; thus they are presented as one symbol in figure 27. Actual-planform linear theory results differ from the experimental results by approximately 8 percent of c_{root}.

The drag is the most interesting of the forces and is presented in a number of ways in order to reveal the nature of the results. The basic drag polars of C_D versus C_L are shown in figure 28 for both the flat wing and the cambered wing at the design Mach number of 1.62. At the lift coefficient of 0.375 corresponding to the design angle of attack (10°), the cambered wing has 8 percent less drag than does the flat wing.

In computing the drag due to lift, $C_{D,o}$ is taken to be the minimum drag of the flat wing. Figure 29 shows the variation of $C_{D,o}$ with Mach number for the flat wing with free and fixed transition.

In figure 30, the drag is presented in the standard linear theory drag parameter form $\Delta C_D/\beta C_L{}^2$ at the design Mach number of 1.62. As expected, the cambered wing is clearly superior at the higher lift coefficients. The performance of the flat wing with fixed transition is better than that with free transition. The results at the other Mach numbers are similar.

CONCLUDING REMARKS

The experimental pressure results have demonstrated that the design of a supersonic conical wing which employs a supercritical crossflow followed by a shockless recompression is possible. As part of the conical-wing-concept verification, an extensive set of data (including both pressure and force data) has been obtained for a cambered wing having conical geometry on the forward 60 percent of the model length and a flat wing with the identical thickness distribution. The Mach number and angle of attack were varied so as to observe the development of distinct crossflow shocks. This data base should be of significant use in developing numerical prediction techniques. Comparison of the force results demonstrates an 8-percent reduction in drag due to lift.

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November 24, 1980

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TABLE I. - FLAT-WING SPANWISE SECTION ORDINATES

$$\left[\eta = \frac{y \tan \Lambda}{x} \quad \text{or} \quad \frac{y}{y_{LE}}\right]$$

η	z/y_{LE}	η	z/y_{LE}
1.000000	0.000000	0.876460	0.027420
.999970	.001840	.868670	.027800
.999710	.003830	.860660	.028140
.999200	.005390	.852430	.028450
.998440	.006740	.843990	.028720
.997430	.007960	.835330	.028960
.996160	.009100	.826450	.029160
.994630	.010160	.817370	.029310
.992860	.011170	.808080	.029450
.990830	.012140	.798580	.029550
.988550	.013060	.788880	.029630
.986010	.013950	.778980	.029670
.983230	.014800	.768890	.029700
.980200	.015630	.758590	.029710
.976920	.016430	.748100	.029710
.973380	.017210	.737430	.029710
.969610	.017970	.726560	.029710
.965580	.018700	.715510	.029710
.961310	.019420	.704280	.029730
.956800	.020110	.692870	.029770
.952040	.020790	.681290	.029840
.947040	.021450	.669530	.029930
.941800	.022100	.657600	.030080
.936320	.022730	.645500	.030260
.930600	.023350	.633240	.030490
.924640	.023940	.620810	.030780
.918450	.024510	.608240	.031130
.912030	.025070	.595500	.031520
.905370	.025600	.582610	.031970
.898480	.026100	.569580	.032460
.891370	.026570	.556400	.032980
.884030	.027010	.543080	.033550

TABLE I. - Concluded

η	z/y_{LE}	η	z/y_{LE}
0.529620	0.034130	0.267790	0.042350
.516030	.034750	.252400	.042220
.502300	.035390	.236930	.042020
.488450	.036050	.221410	.041820
.474470	.036720	.205830	.041600
.460370	.037400	.190200	.041400
.446160	.038080	.174520	.041210
.431830	.038740	.158800	.041030
.417390	.039370	.143030	.040870
.402850	.039980	.127230	.040730
.388200	.040530	.111400	.040610
.373460	.041030	.095540	.040520
.358620	.041470	.079650	.040440
.343690	.041820	.063750	.040390
.328670	.042100	.047820	.040350
.313560	.042290	.031890	.040330
.298380	.042390	.015950	.040320
.283120	.042410	.000000	.040320

TABLE II. - CAMBERED-WING SPANWISE SECTION ORDINATES

$$\left[\eta = \frac{y \tan \Lambda}{x} \quad \text{or} \quad \frac{y}{y_{LE}}\right]$$

(a) Upper surface

η	z/y_{LE}	η	z/y_{LE}
1.000000	-0.207000	0.877440	-0.131880
.999790	-.205420	.869510	-.128340
.999260	-.203850	.861360	-.124750
.998450	-.202250	.852990	-.121100
.997350	-.200600	.844390	-.117400
.995980	-.198890	.835560	-.113650
.994330	-.197110	.826520	-.109850
.992410	-.195260	.817260	-.105990
.990230	-.193340	.807790	-.102090
.987770	-.191330	.798100	-.098150
.985060	-.189250	.788210	-.094160
.982070	-.187080	.778100	-.090130
.978830	-.184830	.767800	-.086060
.975330	-.182510	.757290	-.081970
.971570	-.180100	.746580	-.077850
.967550	-.177610	.735680	-.073700
.963280	-.175040	.724580	-.069540
.958750	-.172400	.713300	-.065370
.953970	-.169680	.701830	-.061200
.948940	-.166890	.690170	-.057040
.943660	-.164020	.678330	-.052880
.938130	-.161090	.666310	-.048750
.932350	-.158080	.654120	-.044650
.926320	-.155020	.641760	-.040590
.920060	-.151890	.629230	-.036570
.913550	-.148700	.616540	-.032620
.906800	-.145450	.603680	-.028730
.899810	-.142140	.590670	-.024910
.892590	-.138780	.577500	-.021190
.885130	-.135350	.564180	-.017560

TABLE II. - Continued

(a) Concluded

η	z/y_{LE}
0.550710	-0.014030
.537100	-.010610
.523350	-.007300
.509460	-.004130
.495440	-.001080
.481290	.001850
.467020	.004670
.452620	.007360
.438110	.009930
.423480	.012370
.408740	.014690
.393890	.016880
.378940	.018950
.363900	.020890
.348760	.022720
.333530	.024420
.318210	.026010
.302810	.027490
.287330	.028860
0.271780	0.030120
.256160	.031290
.240470	.032370
.224720	.033370
.208910	.034280
.193040	.035110
.177130	.035880
.161170	.036580
.145170	.037220
.129140	.037800
.113070	.038330
.096970	.038800
.080850	.039210
.064700	.039570
.048540	.039860
.032370	.040080
.016190	.040220
.000000	.040270

TABLE II. - Continued

(b) Lower surface

η	z/y_{LE}	η	z/y_{LE}
1.000000	-0.207000	0.880440	-0.191280
.999880	-.208640	.873010	-.188710
.999320	-.210560	.865350	-.186020
.998610	-.212260	.857490	-.183210
.997830	-.213930	.849410	-.180270
.996770	-.215630	.841130	-.177210
.995630	-.216820	.832640	-.174020
.994320	-.217720	.823940	-.170720
.992810	-.218390	.815040	-.167300
.991090	-.218860	.805940	-.163760
.989140	-.219160	.796650	-.160120
.986970	-.219310	.787150	-.156390
.984560	-.219300	.777470	-.152570
.981930	-.219140	.767590	-.148670
.979060	-.218850	.757530	-.144710
.975950	-.218430	.747270	-.140700
.972610	-.217880	.736840	-.136660
.969040	-.217200	.726220	-.132600
.965220	-.216400	.715420	-.128540
.961180	-.215480	.704450	-.124510
.956900	-.214440	.693310	-.120510
.952390	-.213300	.681990	-.116570
.947650	-.212050	.670510	-.112700
.942670	-.210690	.658860	-.108930
.937470	-.209220	.647050	-.105280
.932030	-.207660	.635080	-.101760
.926370	-.205990	.622950	-.098390
.920480	-.204220	.610670	-.095190
.914360	-.202340	.598240	-.092160
.908020	-.200360	.585660	-.089290
.901450	-.198260	.572930	-.086580
.894670	-.196050	.560070	-.084040
.887670	-.193730	.547070	-.081670

TABLE II. - Concluded

(b) Concluded

η	z/y_{LE}	η	z/y_{LE}
0.533930	-0.079460	0.263060	-0.054180
.520660	-.077410	.247930	-.052750
.507260	-.075530	.232740	-.051320
.493740	-.073800	.217490	-.049930
.480090	-.072210	.202184	-.048628
.466330	-.070750	.186828	-.047413
.452450	-.069400	.171425	-.046288
.438450	-.068160	.155979	-.045256
.424350	-.066990	.140494	-.044318
.410140	-.065890	.124973	-.043476
.395840	-.064820	.109420	-.042729
.381430	-.063780	.093840	-.042080
.366930	-.062730	.078237	-.041528
.352330	-.061670	.062614	-.041075
.337660	-.060560	.046974	-.040722
.322890	-.059410	.031323	-.040470
.308050	-.058200	.015664	-.040319
.293120	-.056920	.000000	-.040267
.278130	-.055580		

TABLE III.- FLAT-WING NUMERICAL DESCRIPTION IN FORMAT OF REFERENCE 6

```
FLAT WING AND HOUSING
  0 -1   1   0   0   0       20 20   1 10   5
  0.0     0.500   1.250   2.500   5.000  10.000  15.000  20.000  25.000  30.000   XAF
 40.000  50.000  60.000  70.000  75.000  80.000  85.000  90.000  95.000100.000   XAF
  0.000   0.000   0.000  60.960                                                   WAFORG
  4.874   3.165   0.000  56.086                                                   WAFORG
  7.310   4.747   0.000  53.650                                                   WAFORG
  9.746   6.330   0.000  51.214                                                   WAFORG
 12.182   7.912   0.000  48.778                                                   WAFORG
 14.620   9.495   0.000  46.340                                                   WAFORG
 17.056  11.077   0.000  43.904                                                   WAFORG
 19.492  12.659   0.000  41.468                                                   WAFORG
 21.928  14.242   0.000  39.032                                                   WAFORG
 24.366  15.822   0.000  36.594                                                   WAFORG
 26.802  17.404   0.000  34.156                                                   WAFORG
 29.238  18.987   0.000  31.722                                                   WAFORG
 31.674  20.569   0.000  29.286                                                   WAFORG
 34.112  22.151   0.000  24.752                                                   WAFORG
 36.548  23.734   0.000  20.056                                                   WAFORG
 38.984  25.316   0.000  15.359                                                   WAFORG
 41.420  26.899   0.000  10.663                                                   WAFORG
 43.858  28.481   0.000   5.966                                                   WAFORG
 46.294  30.063   0.000   1.270                                                   WAFORG
 46.947  30.488   0.000   0.000                                                   WAFORG
  0.0     0.013   0.033   0.065   0.131   0.262   0.393   0.524   0.655   0.786   WAFORD
  1.047   1.309   1.571   1.796   1.879   1.941   1.982   2.003   2.007   2.007   WAFORD
 -0.000   0.129   0.176   0.216   0.271   0.451   0.634   0.789   0.925   1.052   WAFORD
  1.305   1.560   1.813   2.012   2.084   2.137   2.172   2.188   2.189   2.188   WAFORD
 -0.000   0.173   0.239   0.300   0.359   0.494   0.661   0.871   1.044   1.198   WAFORD
  1.471   1.724   1.967   2.150   2.215   2.262   2.292   2.304   2.303   2.301   WAFORD
 -0.000   0.215   0.296   0.378   0.462   0.568   0.726   0.915   1.107   1.290   WAFORD
  1.617   1.900   2.141   2.310   2.368   2.409   2.433   2.441   2.437   2.432   WAFORD
 -0.000   0.257   0.353   0.452   0.565   0.675   0.797   0.965   1.153   1.346   WAFORD
  1.716   2.046   2.309   2.482   2.536   2.574   2.593   2.596   2.591   2.584   WAFORD
 -0.000   0.300   0.412   0.525   0.665   0.802   0.903   1.039   1.209   1.395   WAFORD
  1.781   2.147   2.439   2.635   2.696   2.741   2.763   2.769   2.763   2.755   WAFORD
 -0.000   0.345   0.472   0.600   0.766   0.938   1.039   1.148   1.291   1.461   WAFORD
  1.836   2.213   2.526   2.749   2.825   2.880   2.914   2.929   2.931   2.931   WAFORD
 -0.000   0.391   0.534   0.679   0.868   1.080   1.196   1.294   1.410   1.554   WAFORD
  1.903   2.266   2.583   2.826   2.915   2.984   3.033   3.061   3.078   3.090   WAFORD
 -0.000   0.440   0.601   0.763   0.974   1.226   1.369   1.470   1.570   1.688   WAFORD
  1.993   2.324   2.628   2.878   2.976   3.056   3.118   3.162   3.195   3.222   WAFORD
 -0.000   0.492   0.672   0.852   1.087   1.381   1.554   1.670   1.767   1.869   WAFORD
  2.117   2.404   2.682   2.923   3.024   3.110   3.182   3.237   3.284   3.326   WAFORD
 -0.000   0.549   0.749   0.949   1.208   1.542   1.751   1.890   1.996   2.092   WAFORD
  2.290   2.518   2.759   2.980   3.077   3.163   3.237   3.300   3.357   3.410   WAFORD
 -0.000   0.610   0.833   1.055   1.341   1.714   1.960   2.130   2.255   2.351   WAFORD
  2.514   2.684   2.874   3.065   3.153   3.234   3.306   3.370   3.431   3.490   WAFORD
 -0.000   0.679   0.927   1.172   1.488   1.901   2.185   2.389   2.533   2.638   WAFORD
  2.768   2.914   3.049   3.195   3.268   3.339   3.403   3.465   3.525   3.585   WAFORD
 -0.000   0.798   1.088   1.375   1.744   2.223   2.564   2.816   3.005   3.144   WAFORD
  3.327   3.442   3.534   3.626   3.675   3.724   3.777   3.829   3.880   3.935   WAFORD
 -0.000   0.960   1.309   1.653   2.093   2.656   3.059   3.373   3.619   3.813   WAFORD
  4.082   4.243   4.340   4.408   4.436   4.464   4.492   4.519   4.549   4.579   WAFORD
 -0.000   1.190   1.623   2.051   2.590   3.276   3.759   4.147   4.468   4.734   WAFORD
  5.140   5.416   5.598   5.710   5.749   5.779   5.804   5.824   5.840   5.853   WAFORD
 -0.000   1.559   2.130   2.689   3.395   4.284   4.909   5.406   5.824   6.189   WAFORD
  6.790   7.254   7.612   7.882   7.991   8.084   8.159   8.224   8.279   8.324   WAFORD
 -0.000   2.331   3.208   4.043   5.103   6.436   7.368   8.108   8.730   9.276   WAFORD
 10.193  10.967  11.630  12.204  12.462  12.701  12.924  13.132  13.322  13.499   WAFORD
 -0.000   5.992   8.993  11.355  14.432  18.293  20.948  23.066  24.830  26.378   WAFORD
 29.048  31.287  33.227  34.965  35.788  36.541  37.295  37.993  38.674  39.351   WAFORD
  0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   WAFORD
  0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   WAFORD
```

TABLE III.- Concluded

```
 0.000 24.130 36.144 43.180 60.960                                       XFUS
 0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000   Y  1
 0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000   Z  1
 0.000  0.000   .909  1.763  2.433  3.005  3.330  3.330  1.654  0.000   Y  2
-3.391 -3.391 -3.350 -2.972 -2.395 -1.643  -.693  -.693  -.648  -.577   Z  2
 0.000  0.000  1.488  2.637  3.612  4.559  4.956  4.956  2.504  0.000   Y  3
-5.080 -5.080 -4.874 -4.321 -3.569 -2.240  -.963  -.963  -.945  -.902   Z  3
 0.000  3.167  4.059  4.729  5.227  5.626  5.900  5.900  2.898  0.000   Y  4
-5.080 -5.080 -4.437 -3.706 -2.893 -2.027 -1.135 -1.135 -1.128 -1.100   Z  4
 0.000  4.183  4.686  5.144  5.476  5.944  6.033  6.033  2.944  0.000   Y  5
-5.080 -5.080 -4.966 -4.778 -4.536 -3.924 -3.129 -1.201 -1.212 -1.176   Z  5
```

TABLE IV.- CAMBERED-WING NUMERICAL DESCRIPTION IN FORMAT OF REFERENCE 6

```
CAMBERED WING AND HOUSING
  0  1   1  0   0  0  0 20 20   1 10   5
 0.0     0.500   1.250   2.500   5.000  10.000  15.000  20.000  25.000  30.000   XAF
40.000  50.000  60.000  70.000  75.000  80.000  85.000  90.000  95.000100.000   XAF
 0.000   0.000   0.000  60.960                                                   WAFORG
 4.874   3.165   -.655  56.066                                                   WAFORG
 7.310   4.747   -.983  53.650                                                   WAFORG
 9.746   6.330  -1.311  51.214                                                   WAFORG
12.182   7.912  -1.638  48.778                                                   WAFORG
14.620   9.495  -1.966  46.340                                                   WAFORG
17.056  11.077  -2.294  43.904                                                   WAFORG
19.492  12.659  -2.621  41.468                                                   WAFORG
21.928  14.242  -2.949  39.032                                                   WAFORG
24.366  15.822  -3.277  36.594                                                   WAFORG
26.802  17.404  -3.602  34.158                                                   WAFORG
29.238  18.987  -3.929  31.722                                                   WAFORG
31.674  20.569  -4.257  29.286                                                   WAFORG
34.112  22.151  -4.585  24.752                                                   WAFORG
36.548  23.734  -4.912  20.056                                                   WAFORG
38.984  25.316  -5.240  15.359                                                   WAFORG
41.420  26.899  -5.568  10.663                                                   WAFORG
43.856  28.481  -5.895   5.966                                                   WAFORG
46.294  30.063  -6.223   1.270                                                   WAFORG
46.947  30.488  -6.312   0.0                                                     WAFORG
 0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   TZORD
 0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   TZORD
 0.000    .025    .076    .163    .305    .432    .472    .498    .516    .533   TZORD
  .559    .574    .584    .594    .599    .605    .607    .612    .615    .620   TZORD
 0.000    .018    .069    .150    .312    .536    .640    .688    .716    .739   TZORD
  .777    .808    .833    .853    .864    .874    .881    .889    .899    .904   TZORD
 0.000    .010    .061    .140    .295    .572    .744    .838    .894    .930   TZORD
  .978   1.016   1.054   1.090   1.105   1.120   1.135   1.151   1.163   1.176   TZORD
 0.000    .005    .051    .127    .277    .564    .790    .937   1.031   1.092   TZORD
 1.166   1.214   1.257   1.303   1.326   1.349   1.372   1.394   1.412   1.430   TZORD
 0.000   -.003    .041    .114    .257    .538    .790    .983   1.118   1.214   TZORD
 1.331   1.397   1.453   1.509   1.537   1.565   1.593   1.618   1.646   1.669   TZORD
 0.000   -.008    .030    .102    .236    .505    .765    .983   1.156   1.268   TZORD
 1.458   1.560   1.638   1.707   1.740   1.773   1.806   1.836   1.867   1.895   TZORD
 0.000   -.013    .023    .089    .218    .470    .724    .955   1.153   1.316   TZORD
 1.544   1.692   1.803   1.895   1.935   1.976   2.012   2.050   2.083   2.116   TZORD
 0.000   -.018    .013    .076    .198    .437    .676    .907   1.118   1.303   TZORD
 1.582   1.786   1.941   2.062   2.116   2.164   2.210   2.253   2.294   2.329   TZORD
 0.000   -.023    .005    .061    .178    .401    .627    .851   1.062   1.257   TZORD
 1.585   1.842   2.042   2.202   2.268   2.332   2.388   2.441   2.489   2.530   TZORD
 0.000   -.028   -.005    .046    .157    .366    .577    .787    .993   1.189   TZORD
 1.552   1.857   2.106   2.306   2.393   2.469   2.540   2.604   2.662   2.713   TZORD
 0.000   -.030   -.013    .036    .137    .335    .528    .721    .917   1.115   TZORD
 1.496   1.839   2.129   2.370   2.474   2.570   2.657   2.736   2.807   2.868   TZORD
 0.000   -.033   -.020    .023    .117    .300    .478    .660    .848   1.044   TZORD
 1.433   1.796   2.118   2.395   2.517   2.629   2.733   2.827   2.911   2.987   TZORD
 0.000   -.033   -.030    .003    .081    .239    .396    .556    .724    .897   TZORD
 1.250   1.598   1.925   2.223   2.360   2.489   2.609   2.720   2.824   2.921   TZORD
 0.000   -.030   -.036   -.015    .048    .185    .325    .462    .605    .749   TZORD
 1.049   1.351   1.651   1.938   2.075   2.207   2.337   2.459   2.576   2.687   TZORD
 0.000   -.023   -.038   -.025    .025    .137    .254    .371    .488    .605   TZORD
  .843   1.085   1.331   1.575   1.697   1.816   1.933   2.050   2.162   2.273   TZORD
 0.000   -.015   -.033   -.030   0.000    .064    .173    .262    .353    .442   TZORD
  .622    .803    .986   1.168   1.260   1.351   1.443   1.534   1.628   1.717   TZORD
 0.000   -.010   -.018   -.030   -.020    .025    .061    .140    .201    .259   TZORD
  .381    .500    .620    .739    .798    .859    .917    .978   1.036   1.095   TZORD
 0.000   -.008   -.003   -.003   0.000    .003    .013    .030    .051    .074   TZORD
  .119    .170    .221    .274    .300    .328    .353    .378    .406    .432   TZORD
 0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   TZORD
 0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   TZORD
```

TABLE IV.- Concluded

```
  0.0     0.013  0.033  0.065  0.131  0.262  0.392  0.523  0.654  0.765   WAFORD
  1.046   1.308  1.569  1.794  1.876  1.938  1.980  2.001  2.005  2.005   WAFORD
 -0.000   0.138  0.189  0.228  0.281  0.459  0.640  0.794  0.928  1.055   WAFORD
  1.306   1.560  1.813  2.012  2.083  2.136  2.170  2.186  2.168  2.187   WAFORD
 -0.000   0.185  0.256  0.319  0.378  0.509  0.694  0.881  1.053  1.206   WAFORD
  1.476   1.728  1.969  2.152  2.217  2.263  2.292  2.305  2.303  2.301   WAFORD
 -0.000   0.230  0.318  0.403  0.488  0.592  0.747  0.933  1.123  1.305   WAFORD
  1.628   1.909  2.146  2.315  2.372  2.413  2.436  2.443  2.439  2.434   WAFORD
 -0.000   0.273  0.379  0.483  0.599  0.709  0.827  0.992  1.177  1.368   WAFORD
  1.734   2.061  2.322  2.492  2.546  2.582  2.601  2.603  2.596  2.568   WAFORD
 -0.000   0.317  0.441  0.563  0.708  0.845  0.944  1.076  1.243  1.427   WAFORD
  1.808   2.170  2.458  2.651  2.713  2.754  2.775  2.779  2.772  2.764   WAFORD
 -0.000   0.361  0.505  0.644  0.817  0.992  1.041  1.198  1.337  1.503   WAFORD
  1.873   2.246  2.554  2.773  2.848  2.900  2.933  2.946  2.947  2.945   WAFORD
 -0.000   0.406  0.570  0.729  0.928  1.146  1.261  1.357  1.469  1.609   WAFORD
  1.952   2.310  2.622  2.859  2.947  3.013  3.059  3.086  3.100  3.111   WAFORD
 -0.000   0.453  0.640  0.818  1.043  1.305  1.448  1.547  1.644  1.759   WAFORD
  2.057   2.382  2.680  2.922  3.018  3.096  3.155  3.196  3.226  3.250   WAFORD
 -0.000   0.501  0.713  0.913  1.165  1.471  1.647  1.762  1.857  1.956   WAFORD
  2.197   2.477  2.748  2.981  3.079  3.162  3.230  3.282  3.326  3.364   WAFORD
 -0.000   0.552  0.791  1.015  1.296  1.646  1.859  2.000  2.105  2.198   WAFORD
  2.389   2.608  2.841  3.054  3.147  3.229  3.299  3.359  3.412  3.462   WAFORD
 -0.000   0.604  0.875  1.126  1.439  1.833  2.086  2.259  2.383  2.478   WAFORD
  2.634   2.795  2.975  3.156  3.241  3.317  3.385  3.444  3.501  3.556   WAFORD
 -0.000   0.659  0.967  1.248  1.596  2.038  2.331  2.539  2.684  2.788   WAFORD
  2.931   3.049  3.172  3.308  3.377  3.441  3.501  3.557  3.614  3.670   WAFORD
 -0.000   0.747  1.122  1.457  1.868  2.383  2.740  3.002  3.194  3.335   WAFORD
  3.513   3.620  3.703  3.784  3.826  3.871  3.917  3.964  4.011  4.059   WAFORD
 -0.000   0.850  1.323  1.738  2.235  2.850  3.277  3.605  3.860  4.058   WAFORD
  4.329   4.484  4.573  4.631  4.655  4.676  4.696  4.720  4.743  4.766   WAFORD
 -0.000   0.976  1.588  2.123  2.749  3.511  4.034  4.444  4.780  5.057   WAFORD
  5.472   5.749  5.927  6.034  6.069  6.095  6.114  6.128  6.138  6.146   WAFORD
 -0.000   1.151  1.958  2.706  3.561  4.572  5.261  5.799  6.248  6.632   WAFORD
  7.262   7.743  8.106  8.380  8.486  8.576  8.653  8.715  8.765  8.805   WAFORD
 -0.000   1.505  2.529  3.747  5.157  6.761  7.826  8.657  9.347  9.941   WAFORD
 10.938  11.759 12.459 13.061 13.330 13.578 13.807 14.021 14.220 14.401   WAFORD
 -0.000   3.076  4.931  7.383 10.825 16.179 20.013 22.848 25.109 27.037   WAFORD
 30.253  32.873 35.120 37.104 38.019 38.902 39.717 40.528 41.280 42.015   WAFORD
  0.000   0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000   WAFORD
  0.000   0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000   WAFORD
  0.000  24.130 36.144 43.180 60.960                                      XFUS
  0.000   0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000   Y   1
  0.000   0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000   Z   1
  0.000   0.000   .927  1.791  2.433  2.997  3.312  3.312  1.646  0.000   Y   2
 -3.391  -3.391 -3.294 -2.988 -2.365 -1.636  -.813  -.813  -.655  -.597   Z   2
  0.000   0.000  1.458  2.626  3.612  4.422  4.956  4.930  2.494  0.000   Y   3
 -5.080  -5.080 -4.629 -4.321 -3.592 -2.515 -1.143 -1.143  -.993  -.945   Z   3
  0.000   3.145  4.016  4.709  5.253  5.641  5.890  5.890  2.977  0.000   Y   4
 -5.080  -5.080 -4.402 -3.655 -2.888 -2.029 -1.323 -1.323 -1.158 -1.118   Z   4
  0.000   4.138  4.707  5.146  5.512  5.982  6.033  6.033  3.030  0.000   Y   5
 -5.080  -5.080 -4.945 -4.729 -4.493 -3.805 -3.155 -1.367 -1.255 -1.242   Z   5
```

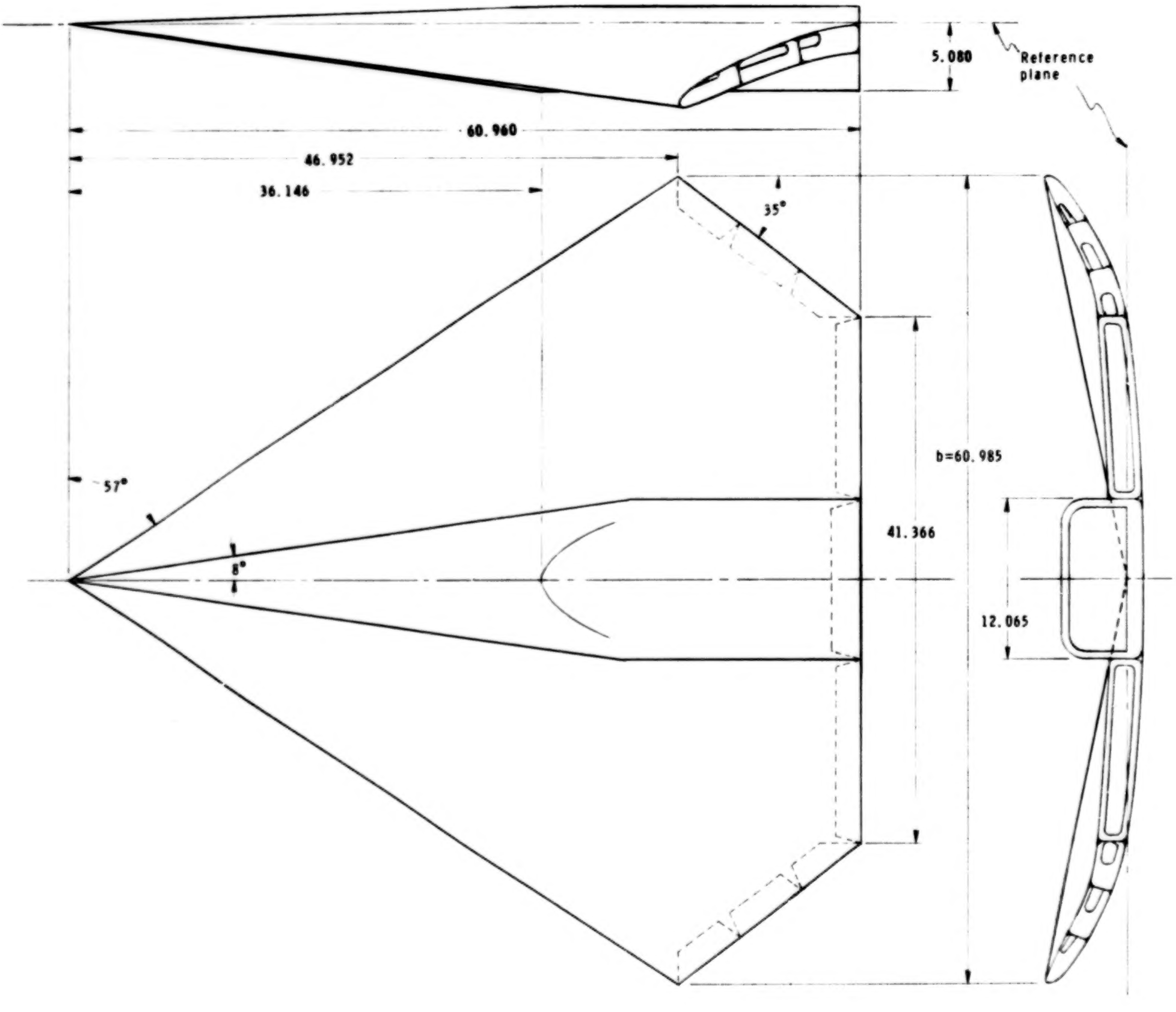
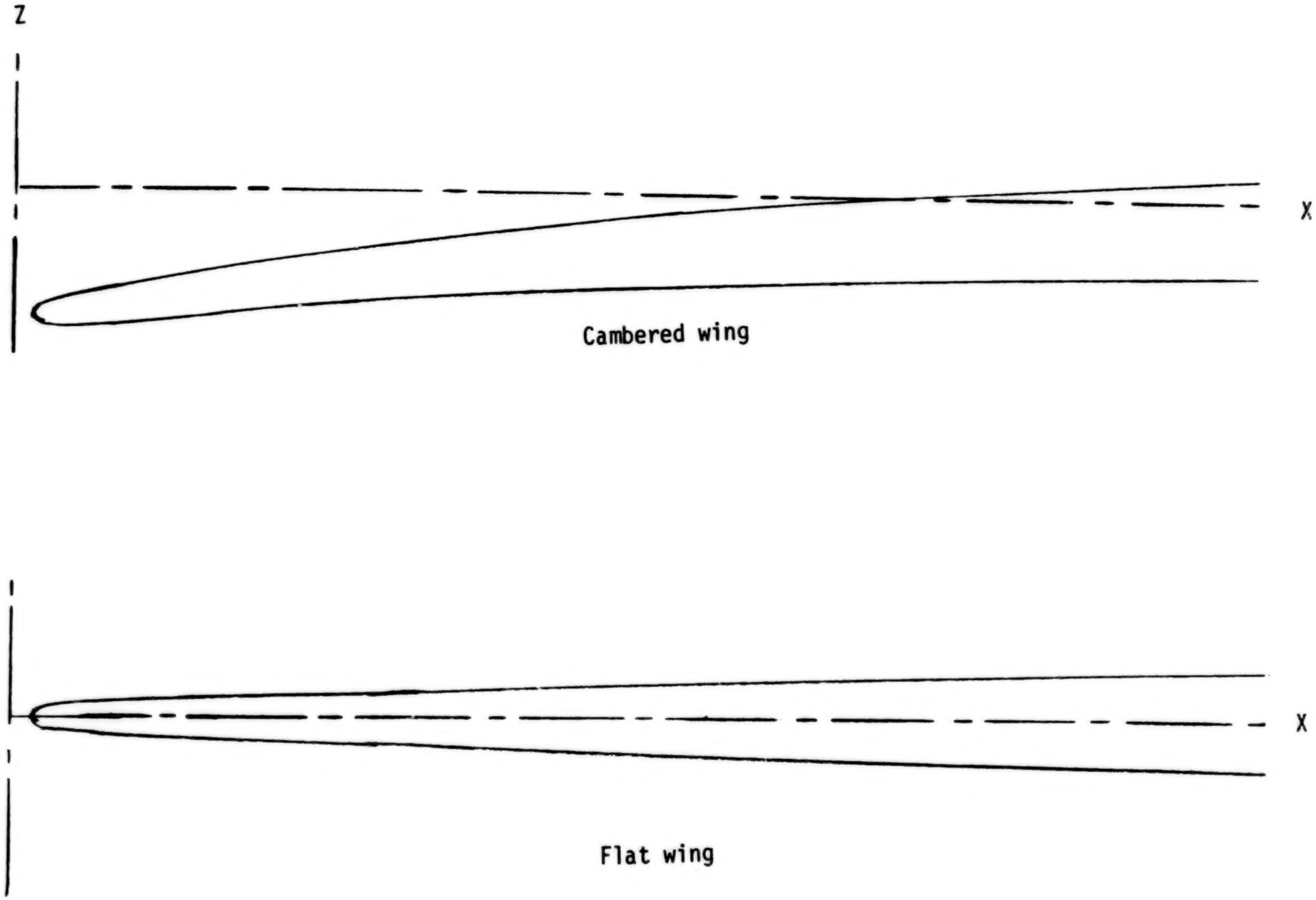
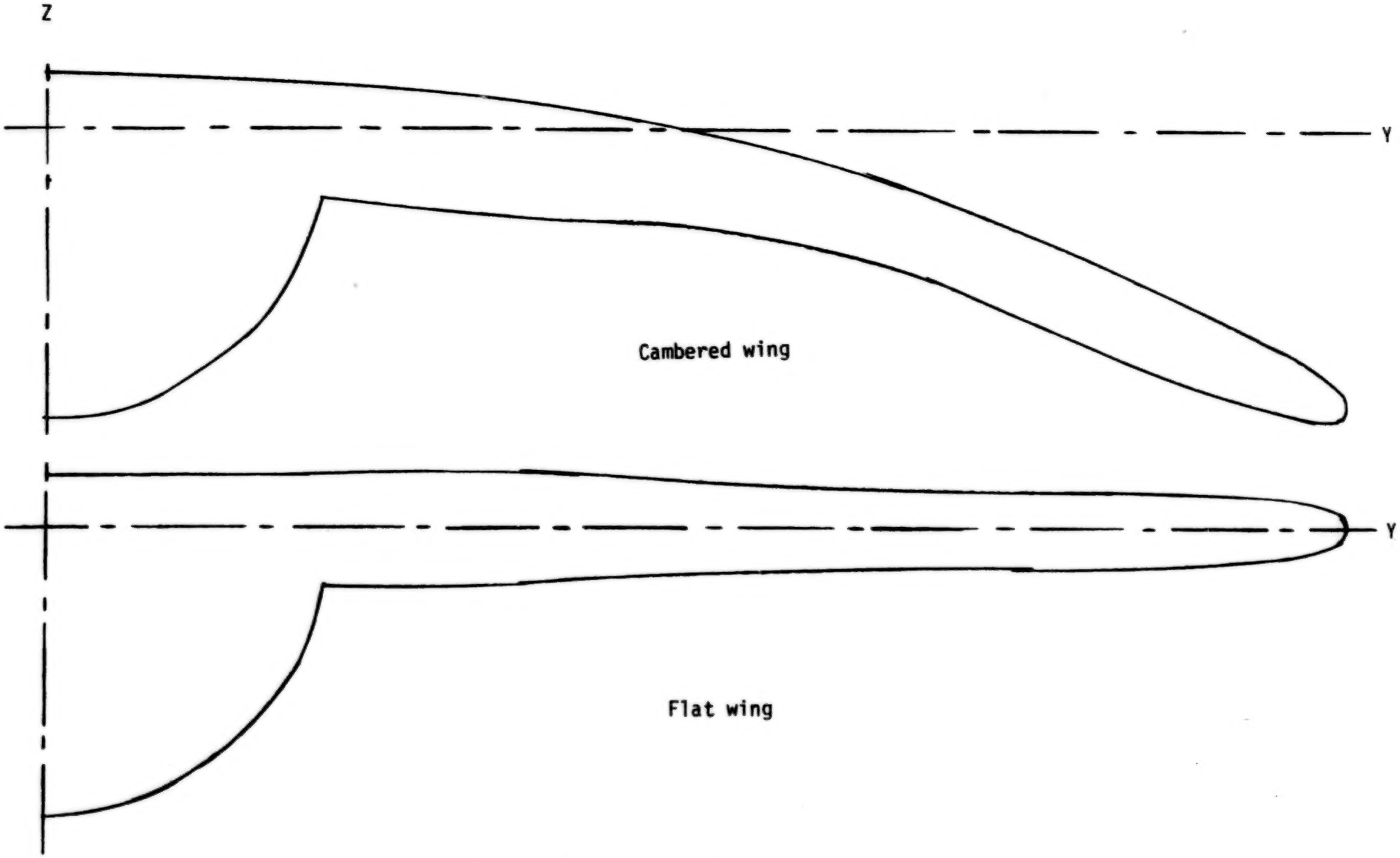

5.080
Reference plane
60.960
46.952
36.146
35°
b=60.985
57°
8°
41.366
12.065

Figure 1.- Model layout of cambered wing. (All dimensions are in centimeters.)


Z
X
Cambered wing
X
Flat wing

(a) Chordwise sections, $2y/b = 0.5$.

Figure 2.- Section shapes of flat wing and cambered wing.


Z
Y
Cambered wing
Y
Flat wing

(b) Spanwise cross sections, $x/\ell \leqq 0.55$.

Figure 2.- Concluded.

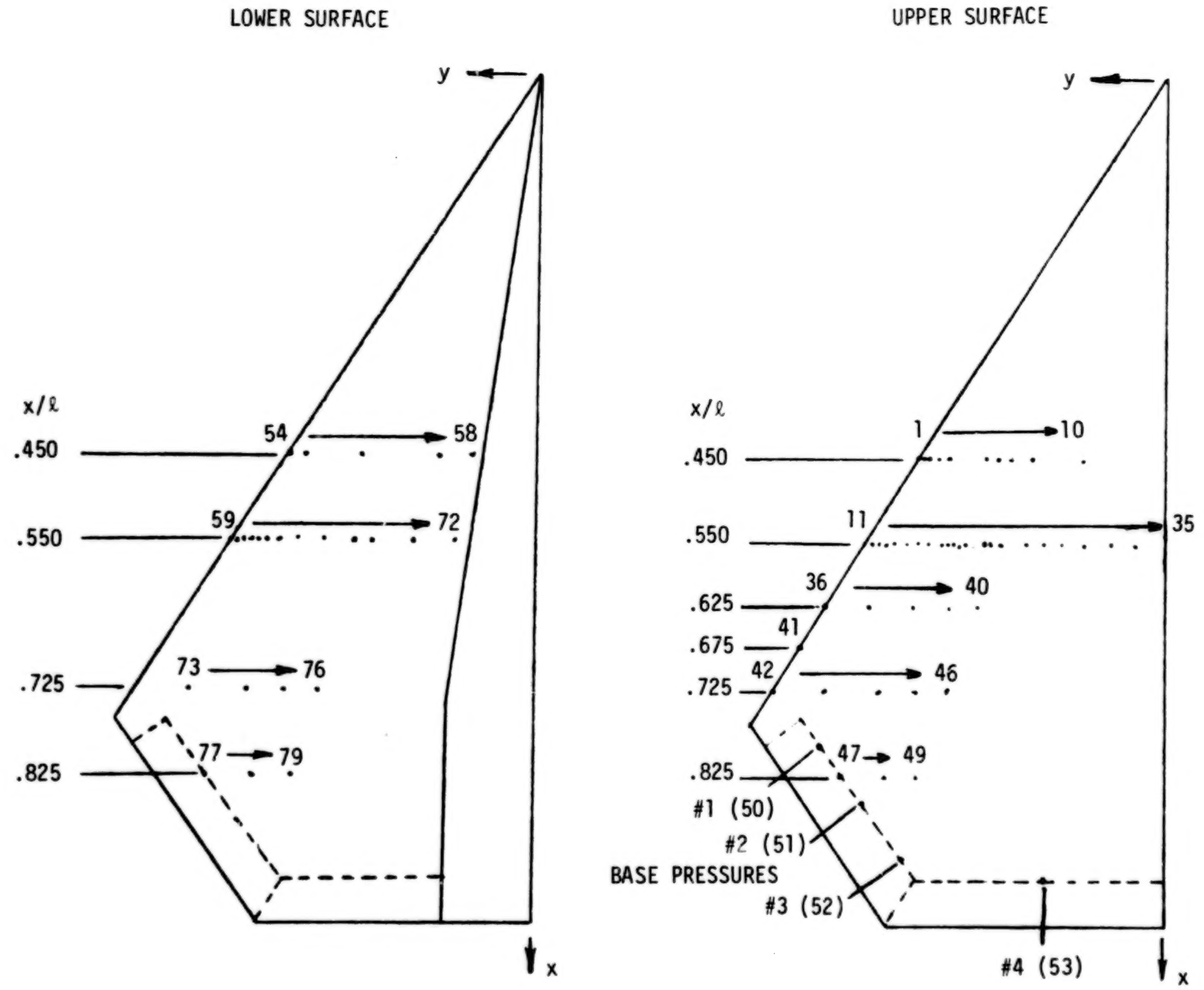
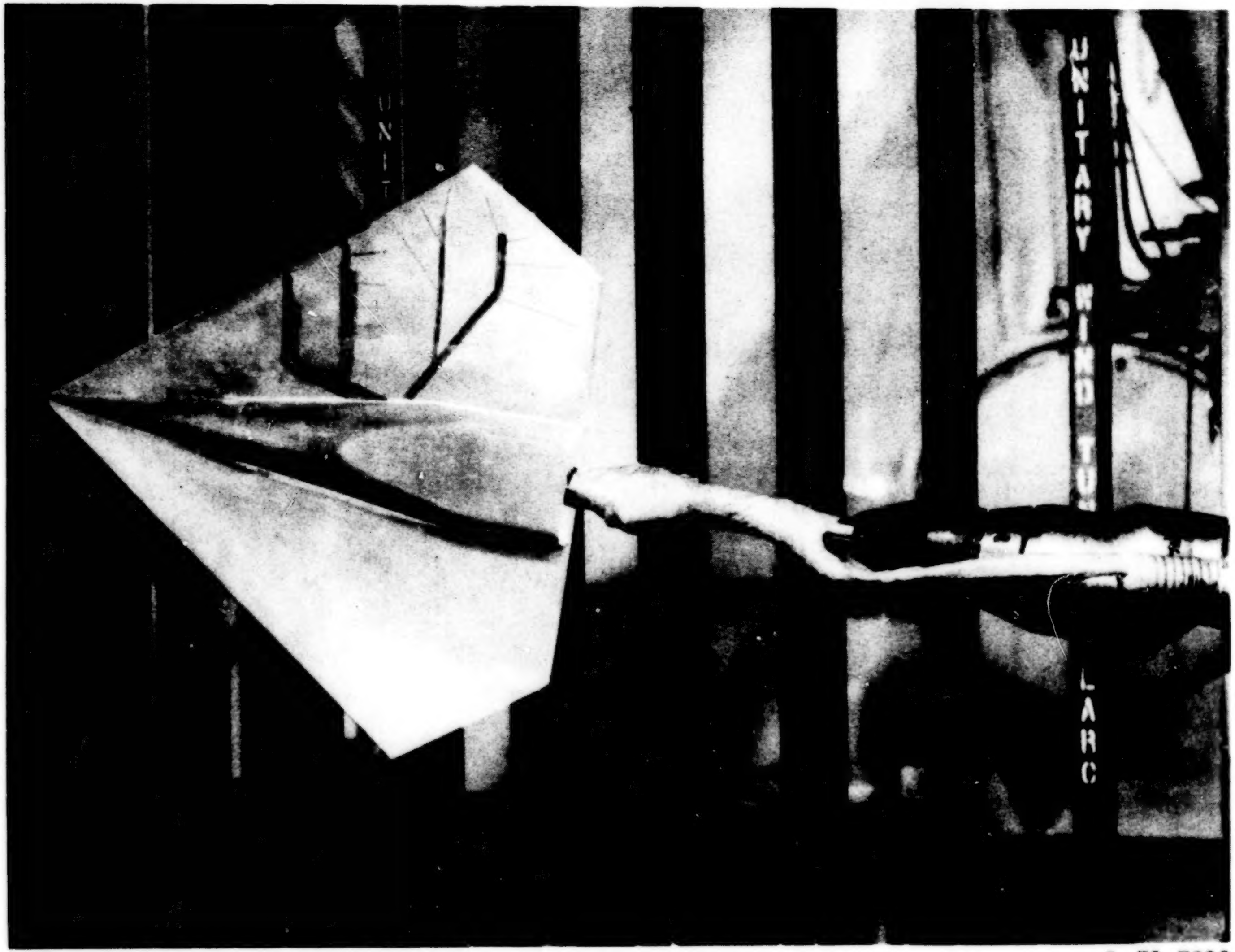

LOWER SURFACE
UPPER SURFACE
y
x
x/ℓ
.450
.550
.725
.825
54
58
59
72
73
76
77
79
y
x
x/ℓ
.450
.550
.625
.675
.725
.825
1
10
11
35
36
40
41
42
46
47
49
#1 (50)
#2 (51)
BASE PRESSURES
#3 (52)
#4 (53)

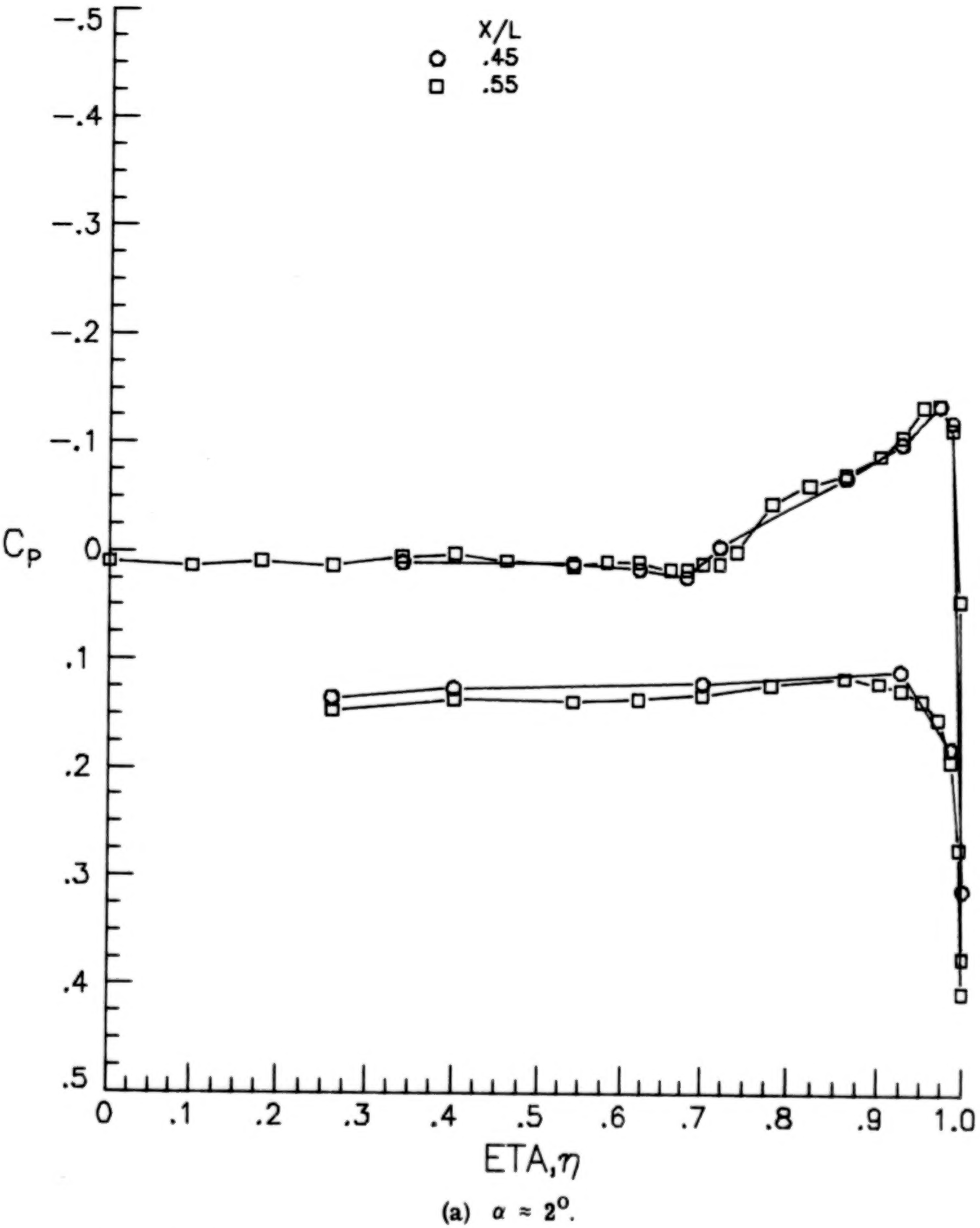
Figure 3.- Pressure orifice locations.


UNIT
UNITARY WIND TU
LARC

L-79-7699

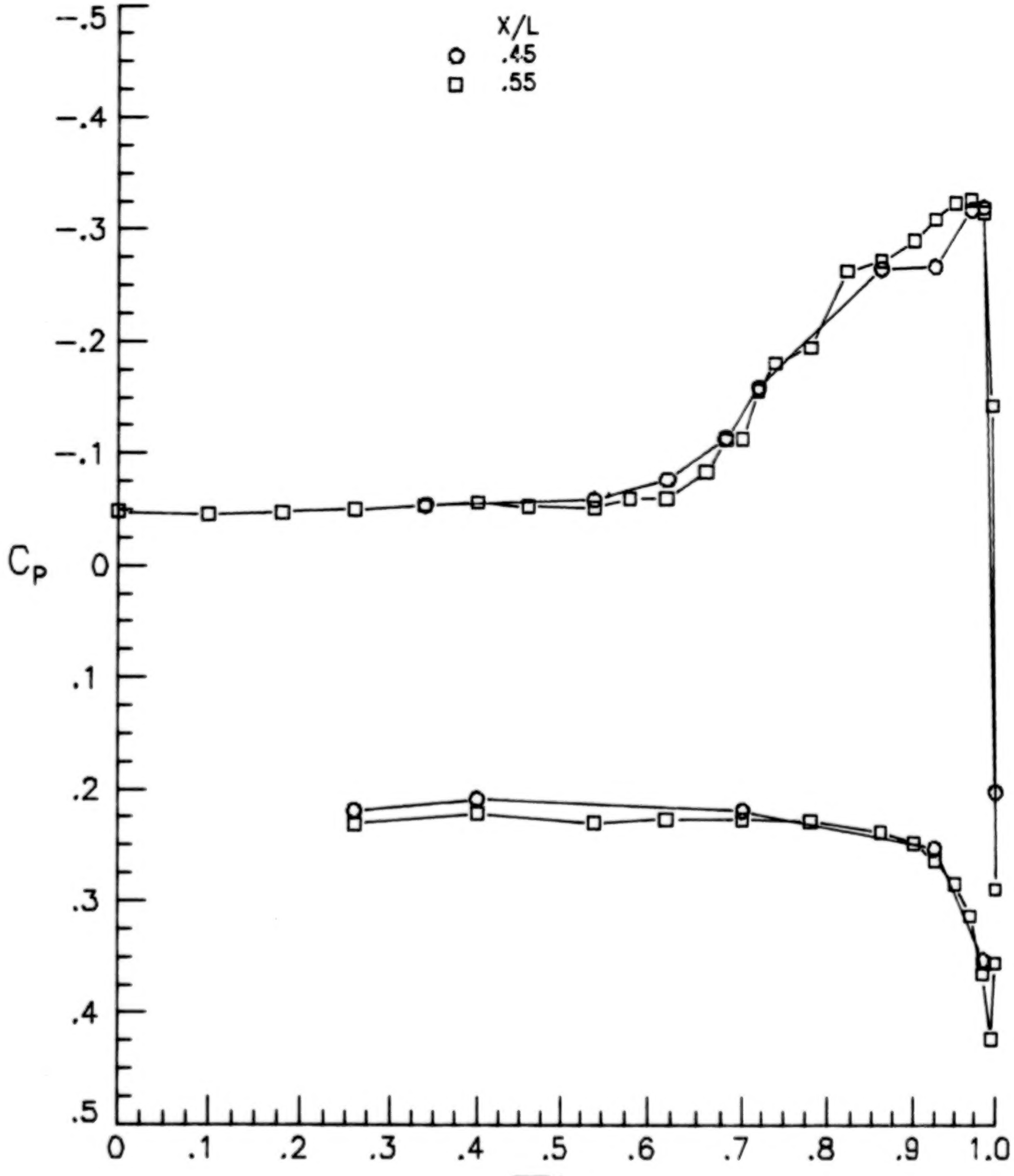
Figure 4.- Cambered wing installed in wind tunnel.

7



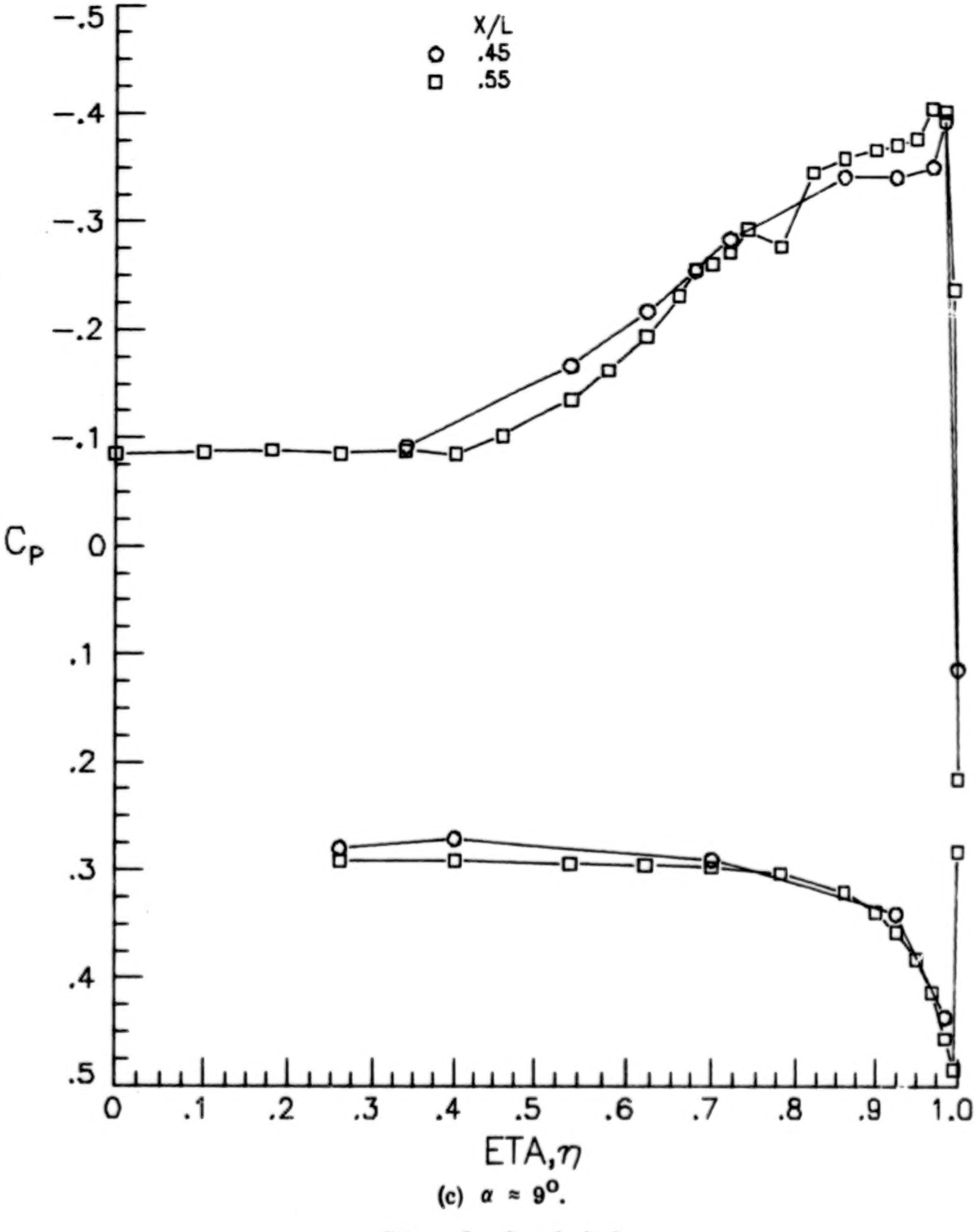
(a) $\alpha \approx 2^{\circ}$.

Figure 5.- Verification of conical flow for flat wing with free transition, $R/m = 6.6 \times 10^6$ and $M = 1.62$.



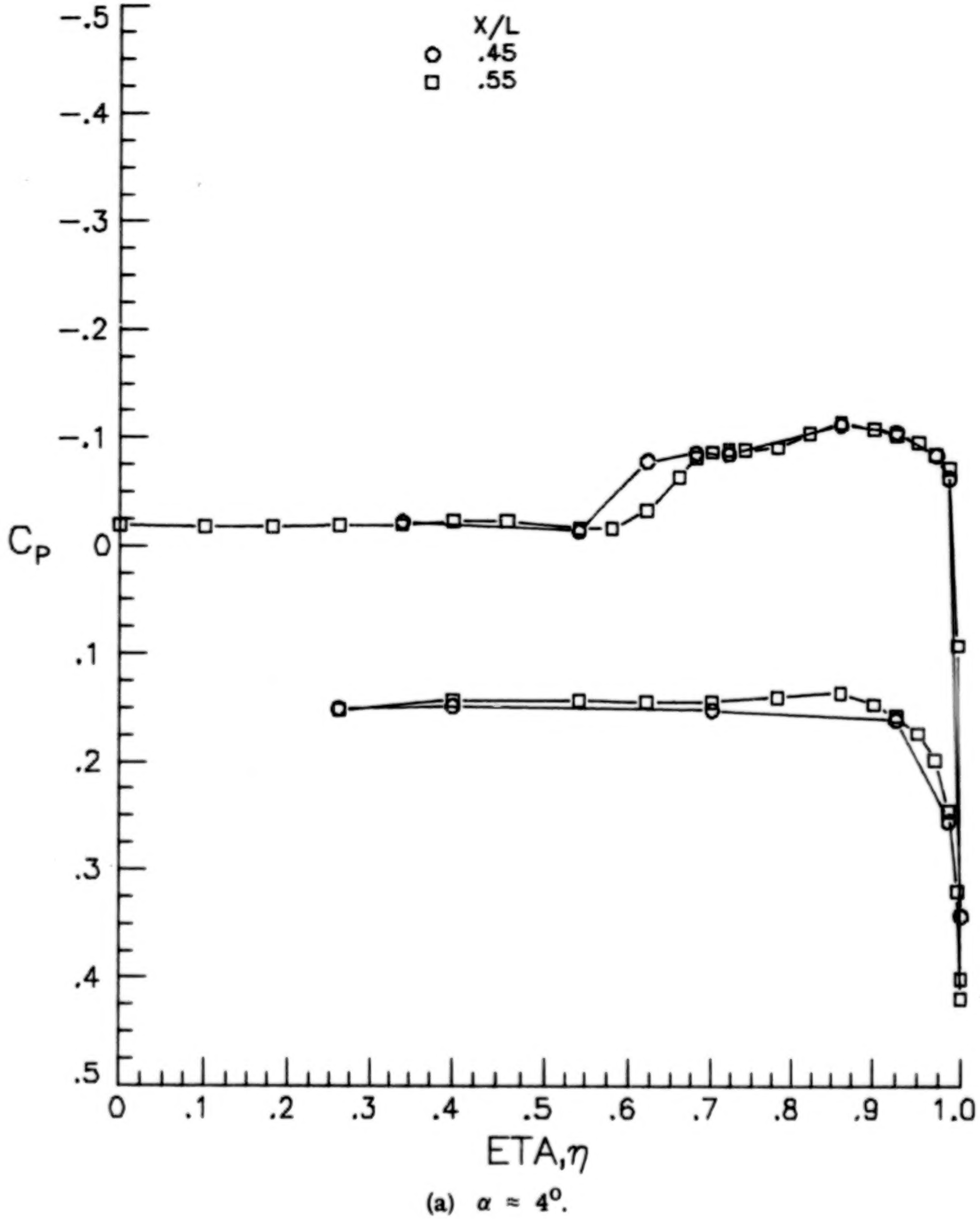
(b) $\alpha \approx 6^{\circ}$.

Figure 5.- Continued.



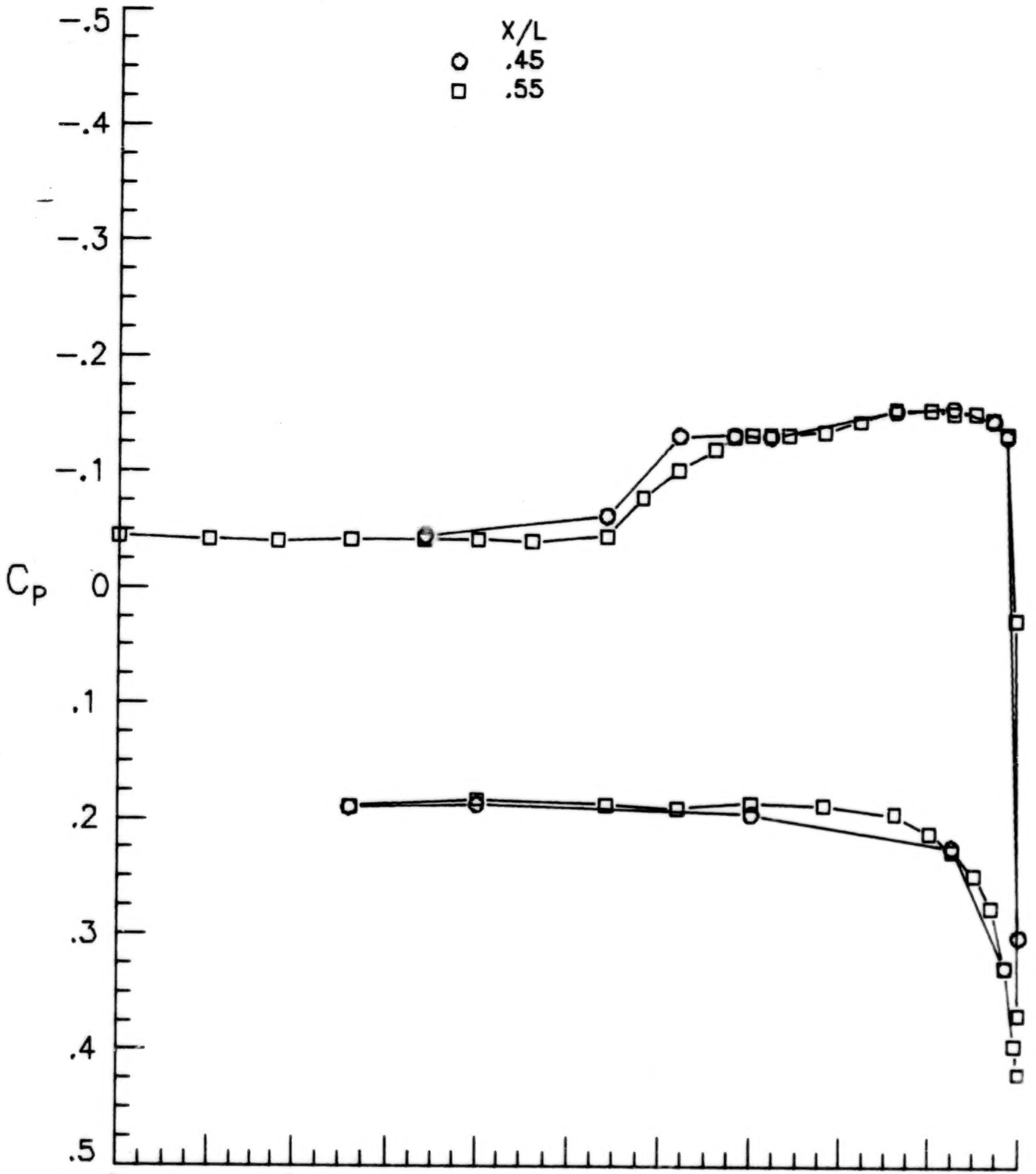
(c) $\alpha \approx 9^{\circ}$.

Figure 5.- Concluded.



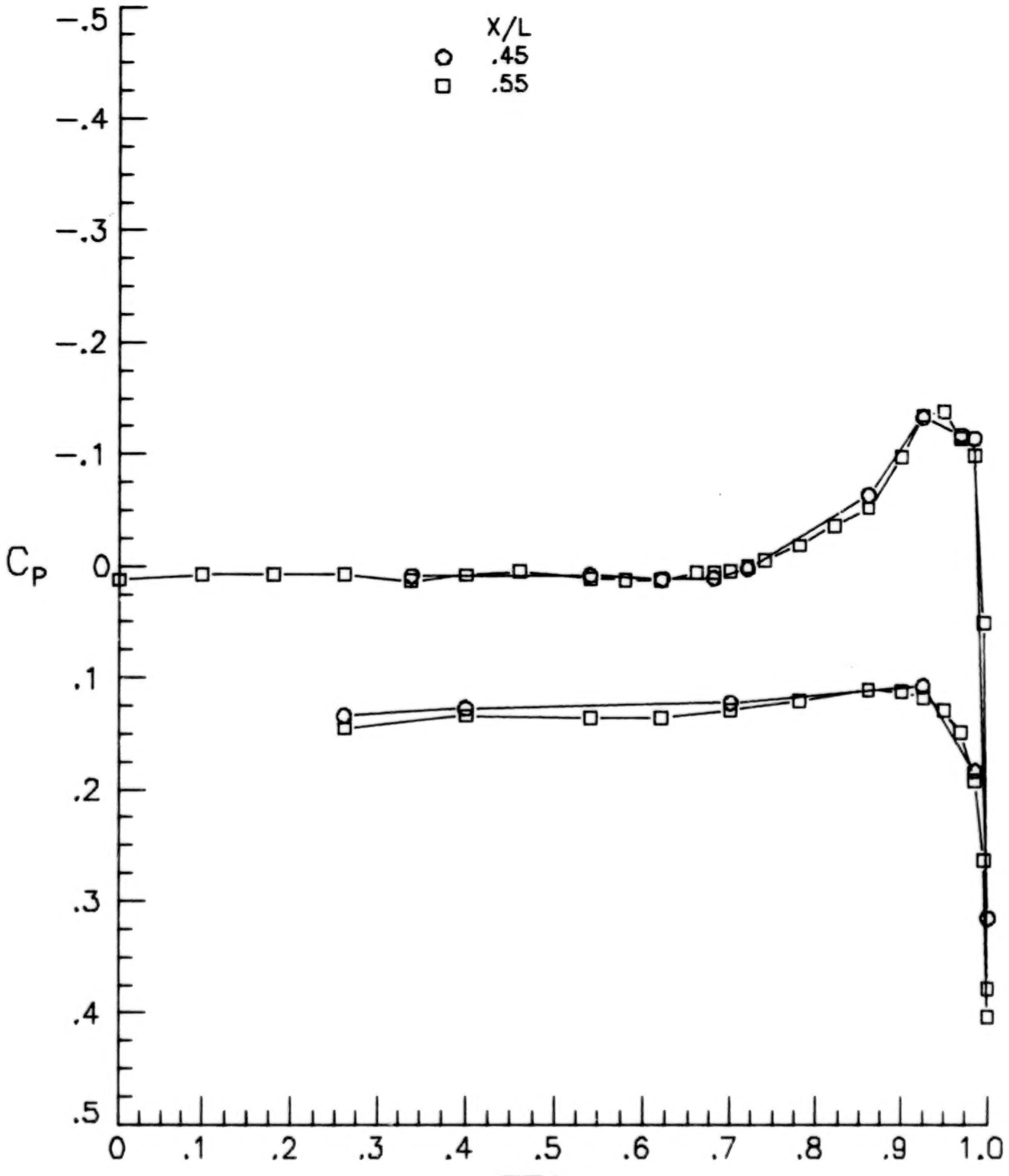
(a) $\alpha \approx 4^{\circ}$.

Figure 6.- Verification of conical flow for flat wing with free transition, $R/m = 6.6 \times 10^6$ and $M = 2.00$.



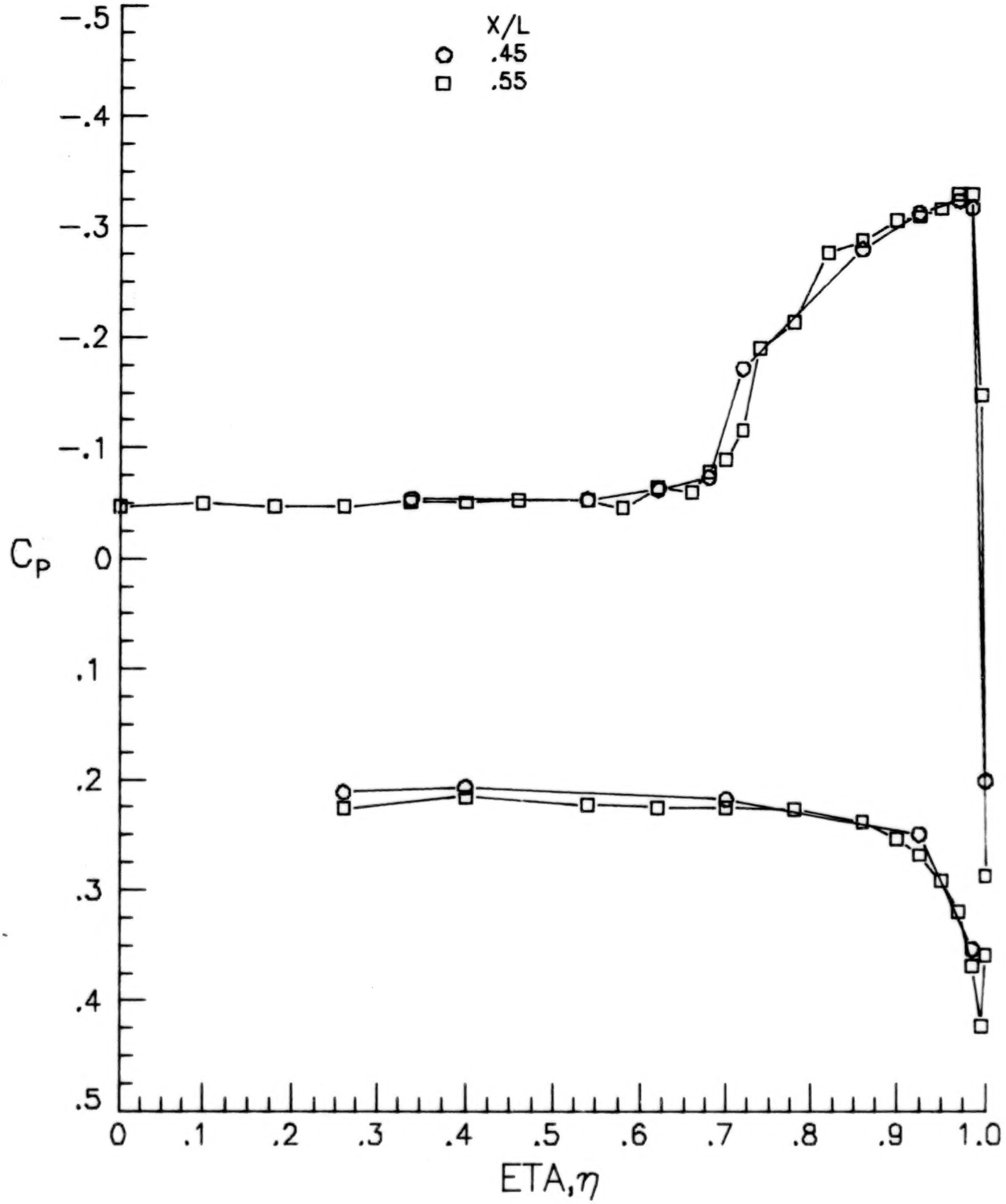
(b) $\alpha \approx 6^{\circ}$.

Figure 6.- Concluded.



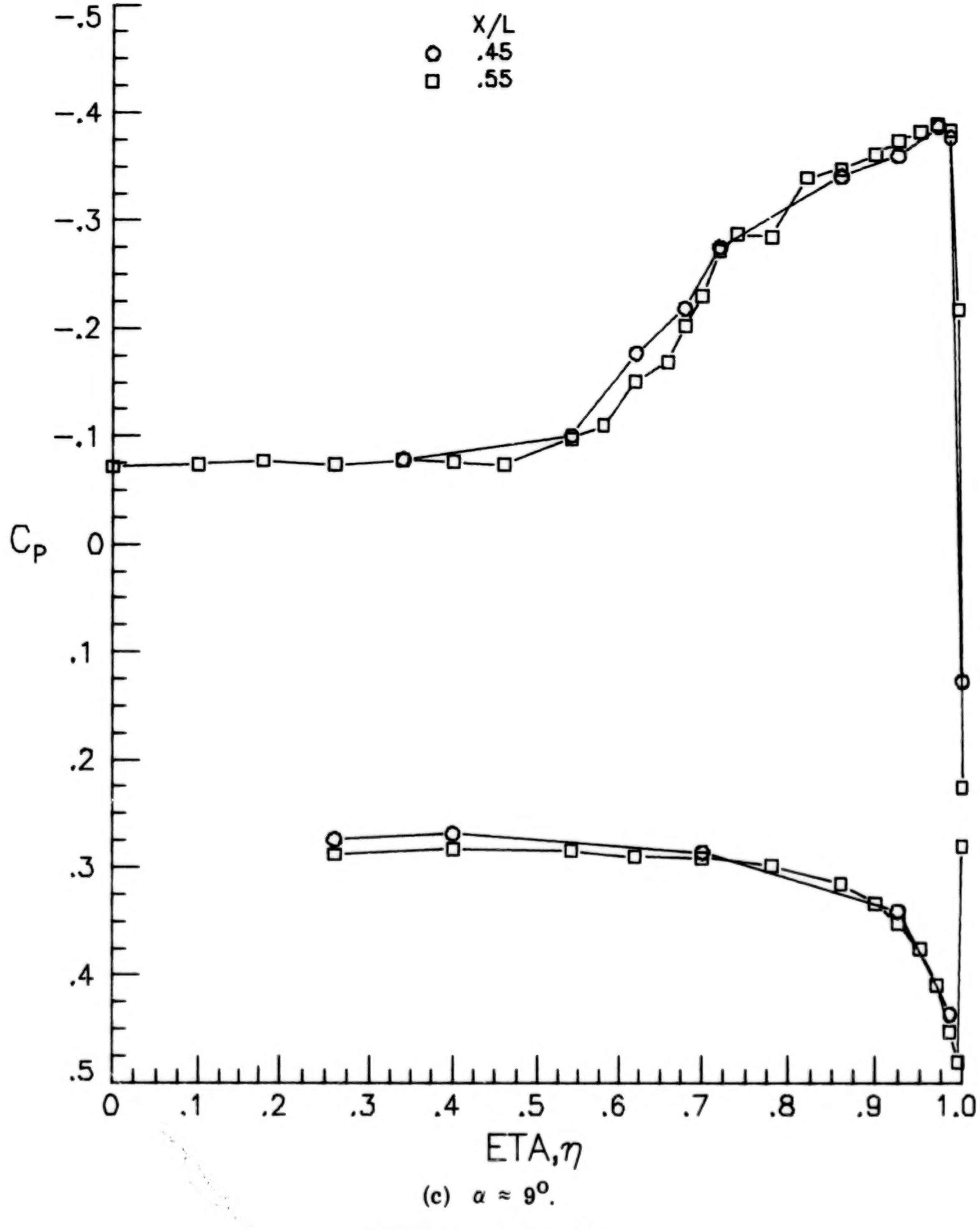
(a) $\alpha \approx 2^{\circ}$.

Figure 7.- Verification of conical flow for flat wing with fixed transition, $R/m = 6.6 \times 10^6$ and $M = 1.62$.



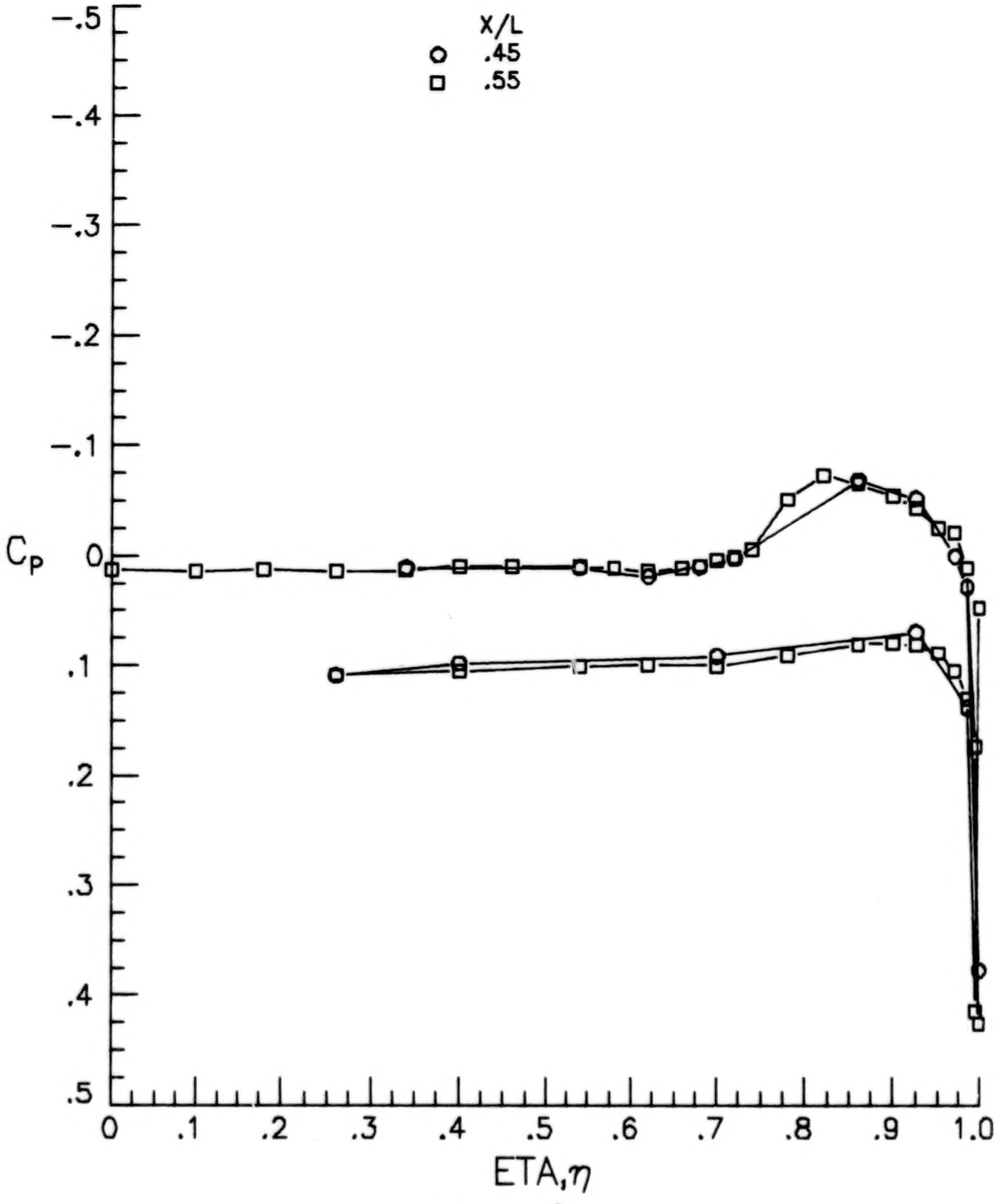
(b) $\alpha \approx 6^{\circ}$.

Figure 7.- Continued.



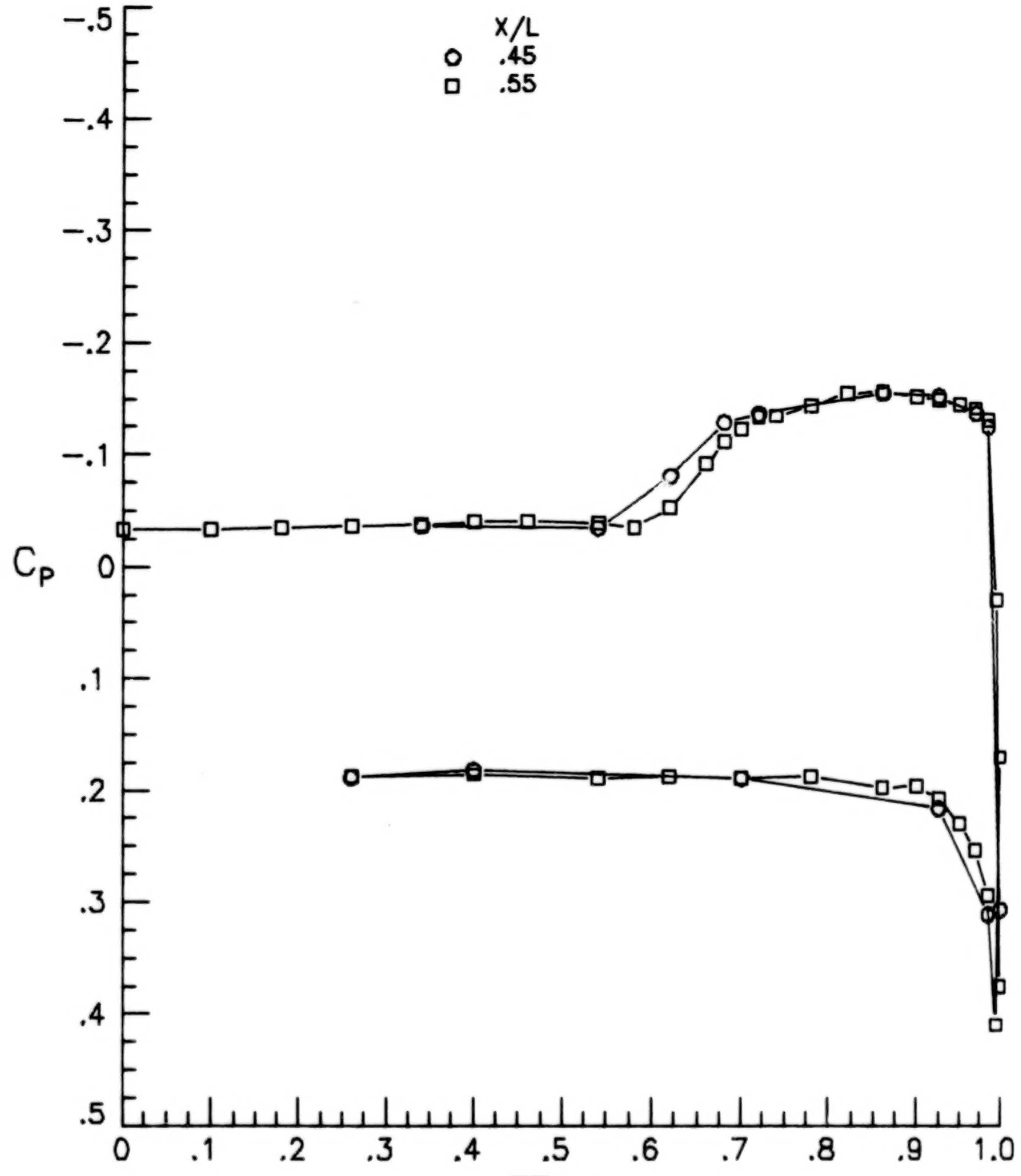
(c) $\alpha \approx 9^{\circ}$.

Figure 7.- Concluded.



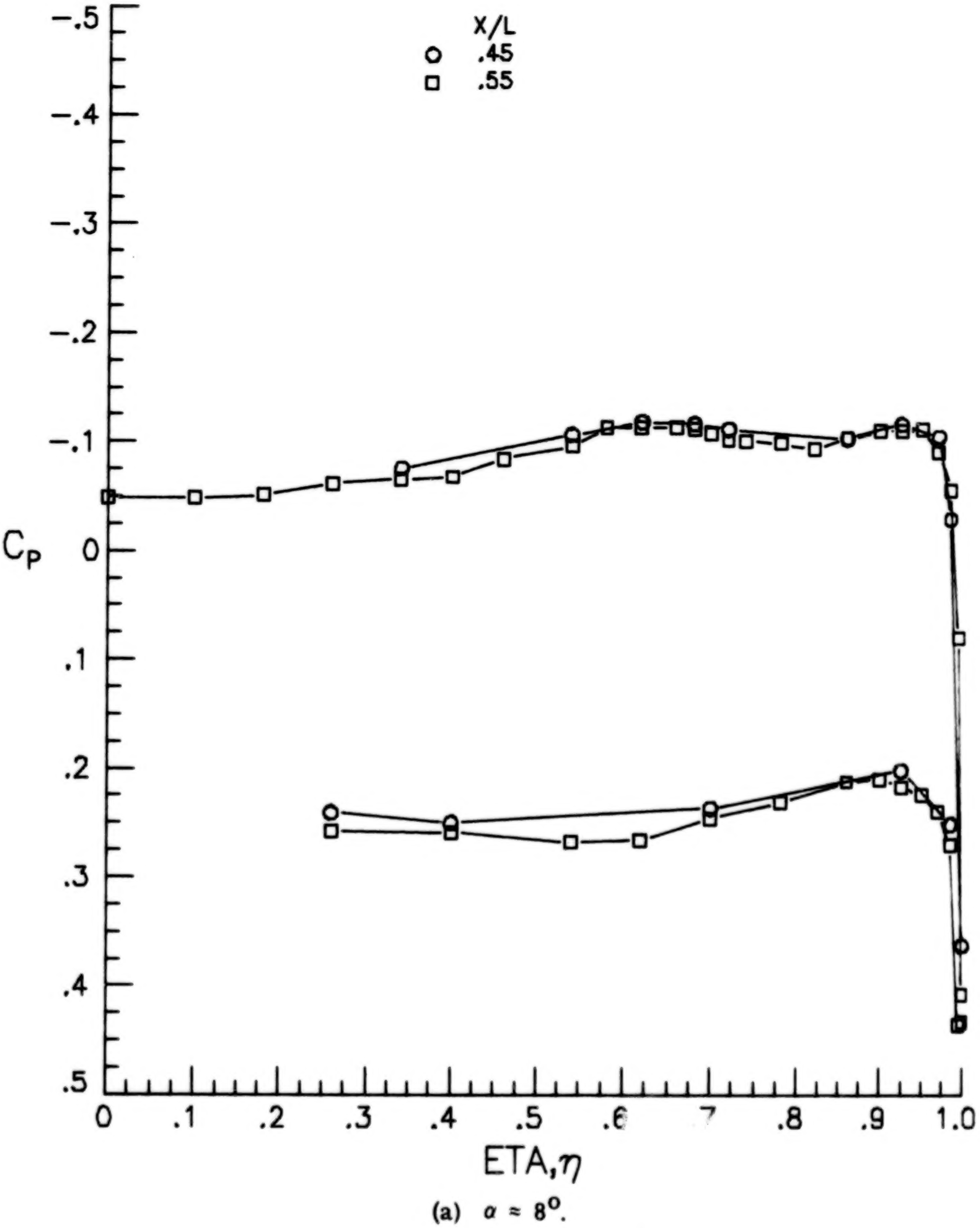
(a) $\alpha \approx 2^{\circ}$.

Figure 8.- Verification of conical flow for flat wing with fixed transition, $R/m = 6.6 \times 10^6$ and $M = 2.00$.



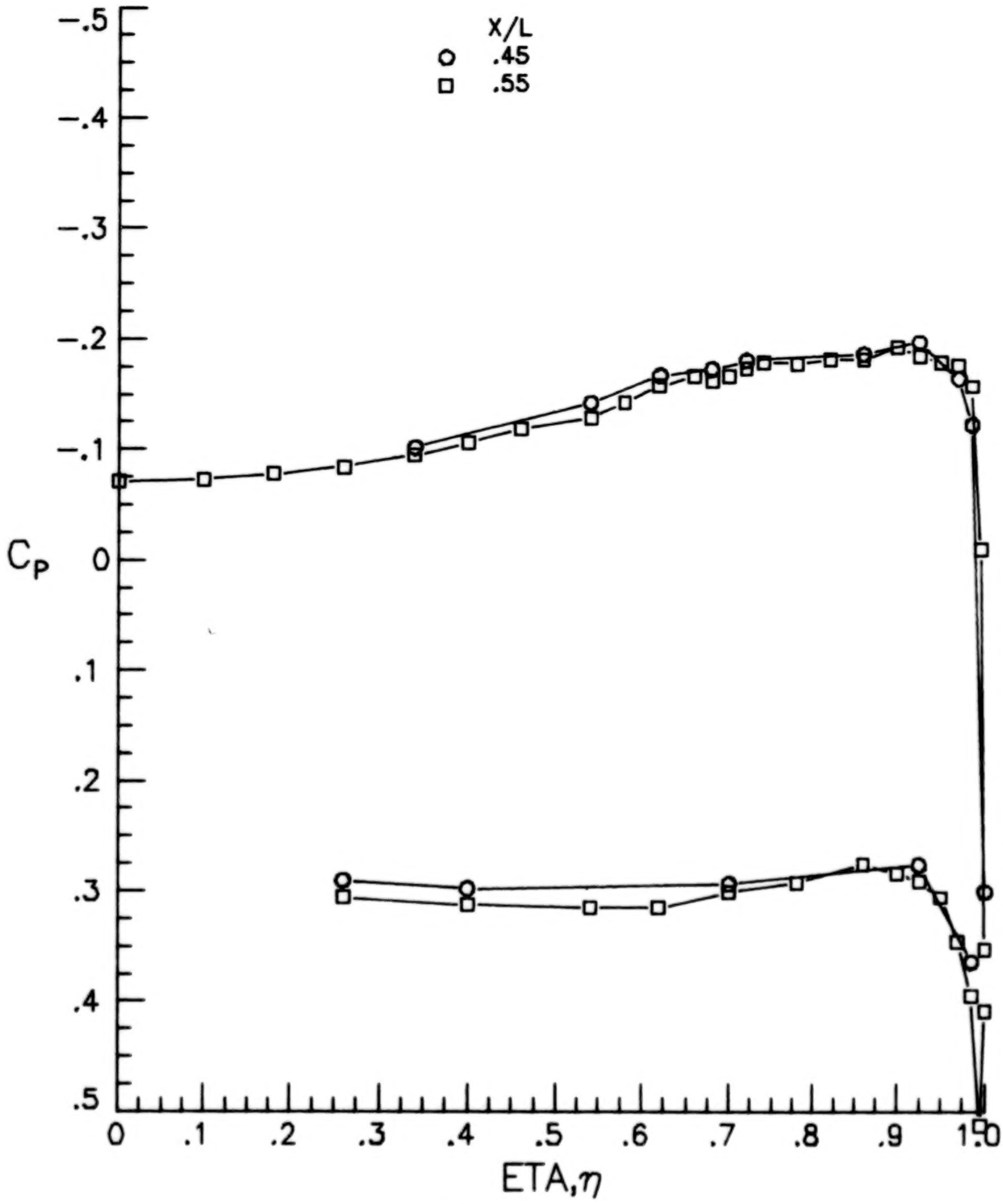
(b) $\alpha \approx 6^{\circ}$.

Figure 8.- Concluded.



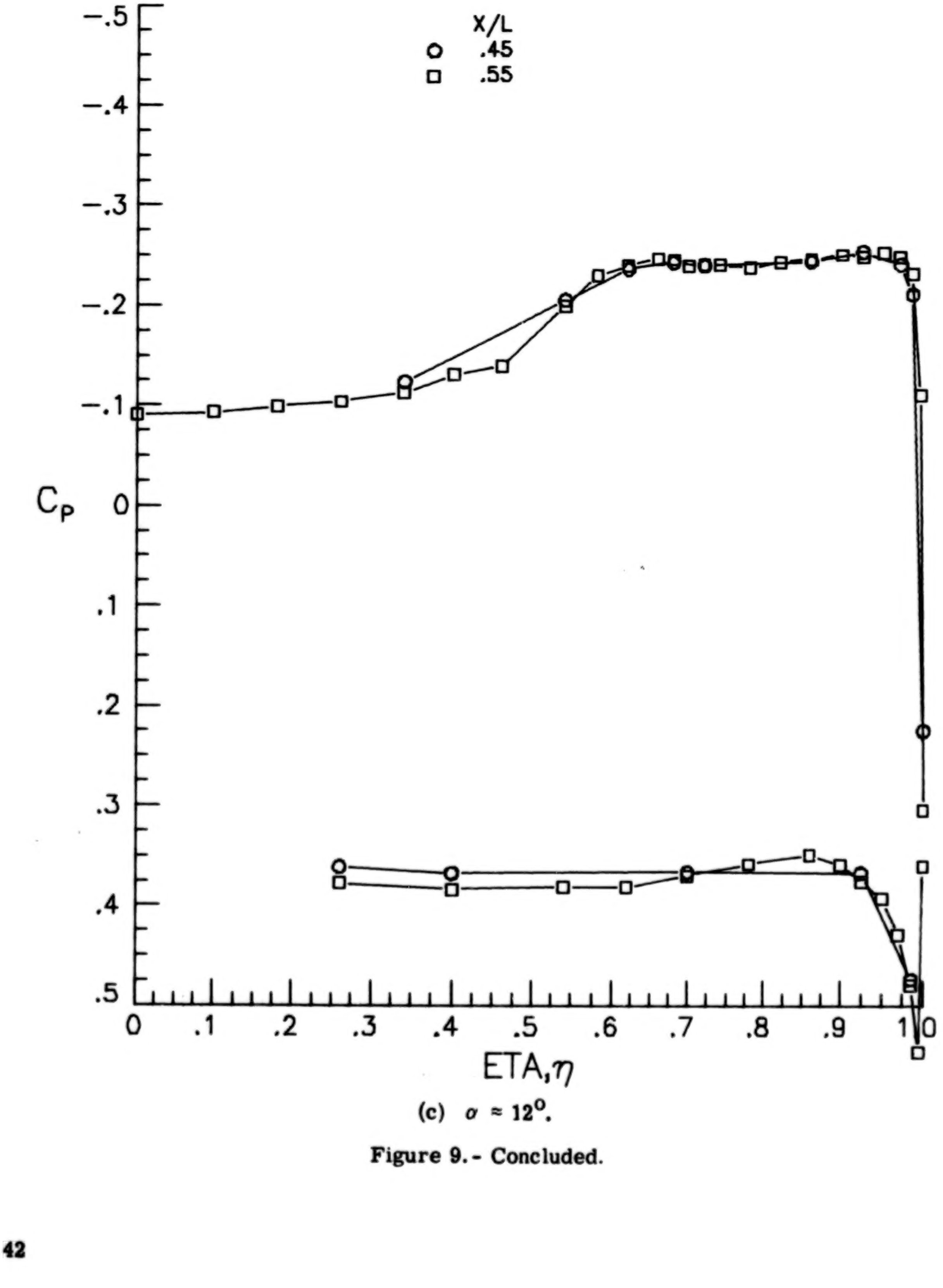
(a) $\alpha \approx 8^{\circ}$.

Figure 9.- Verification of conical flow for cambered wing with fixed transition, $R/m = 6.6 \times 10^{6}$ and $M = 1.62$.



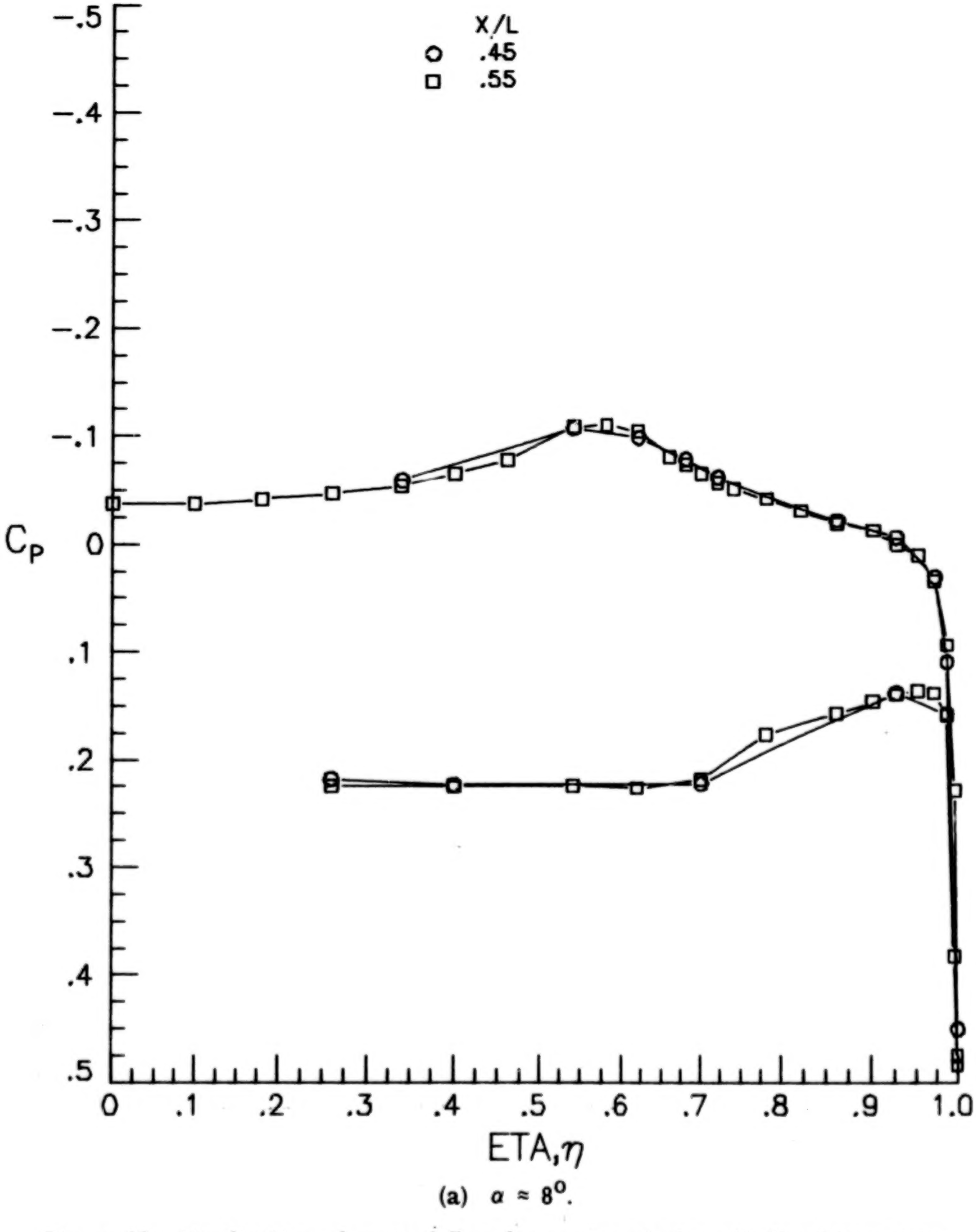
(b) $\alpha \approx 10^{\circ}$.

Figure 9.- Continued.



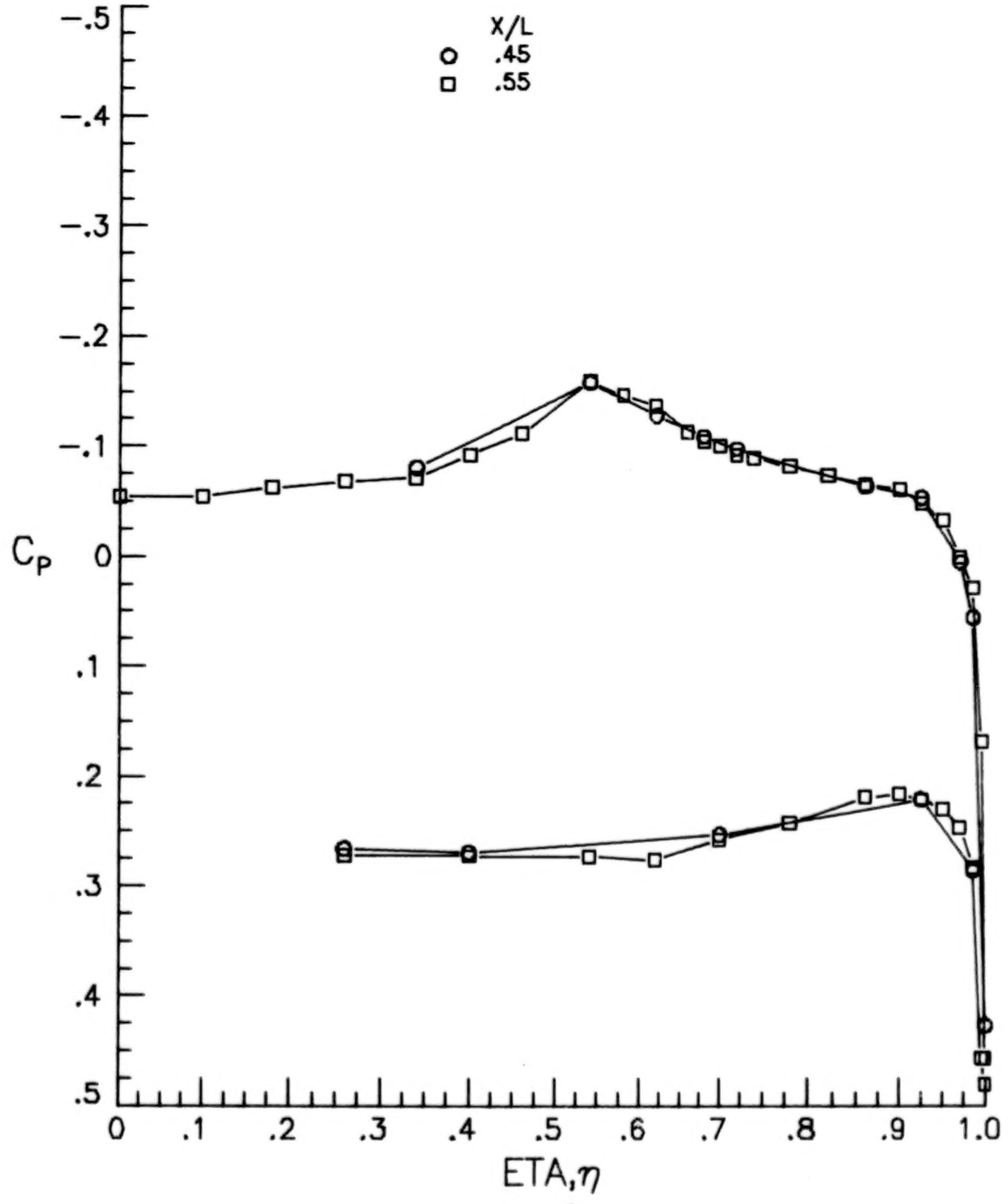
(c) $\alpha \approx 12^{\circ}$.

Figure 9.- Concluded.



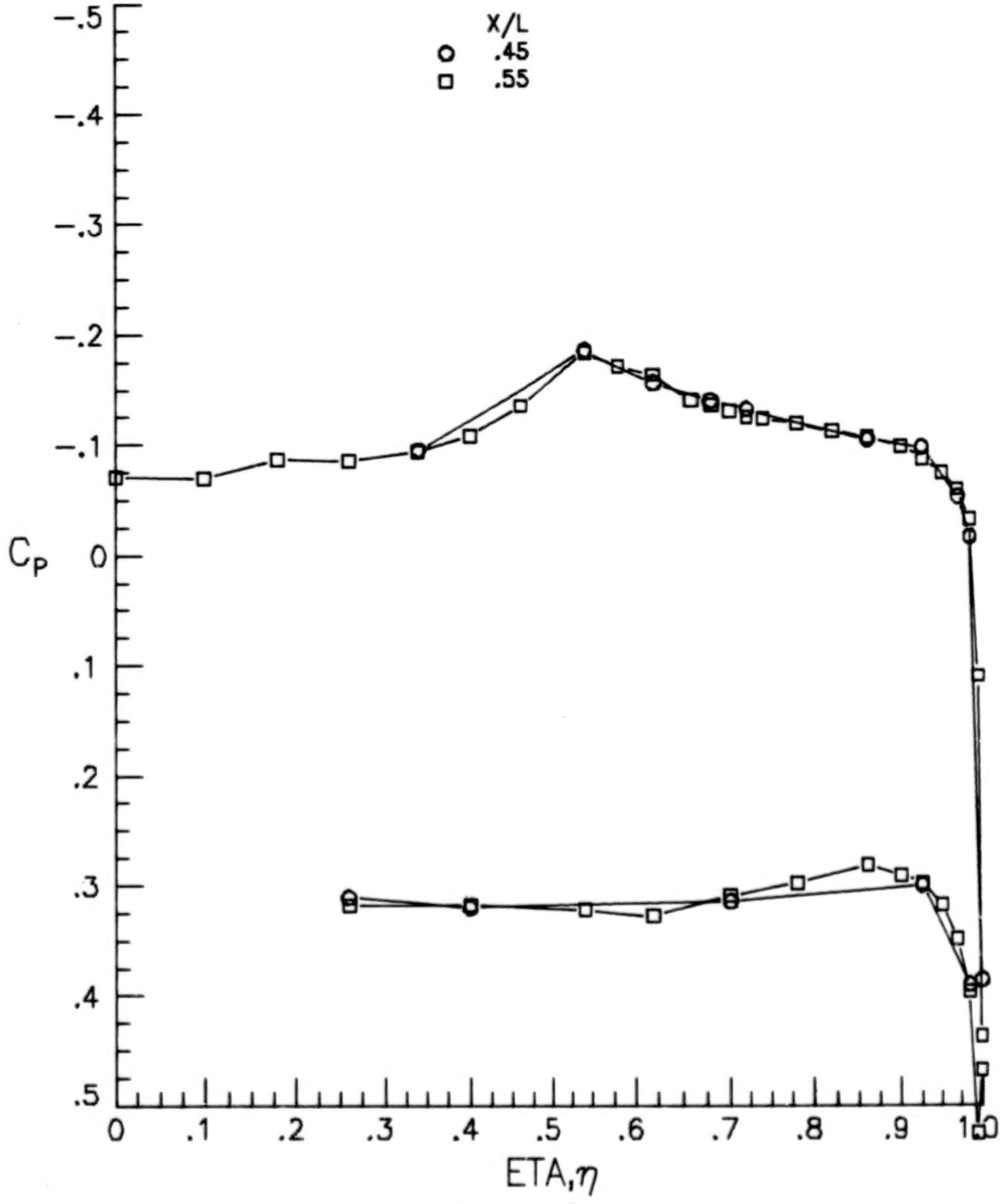
(a) $\alpha \approx 8^{\circ}$.

Figure 10.- Verification of conical flow for cambered wing with fixed transition, $R/m = 6.6 \times 10^6$ and $M = 2.00$.



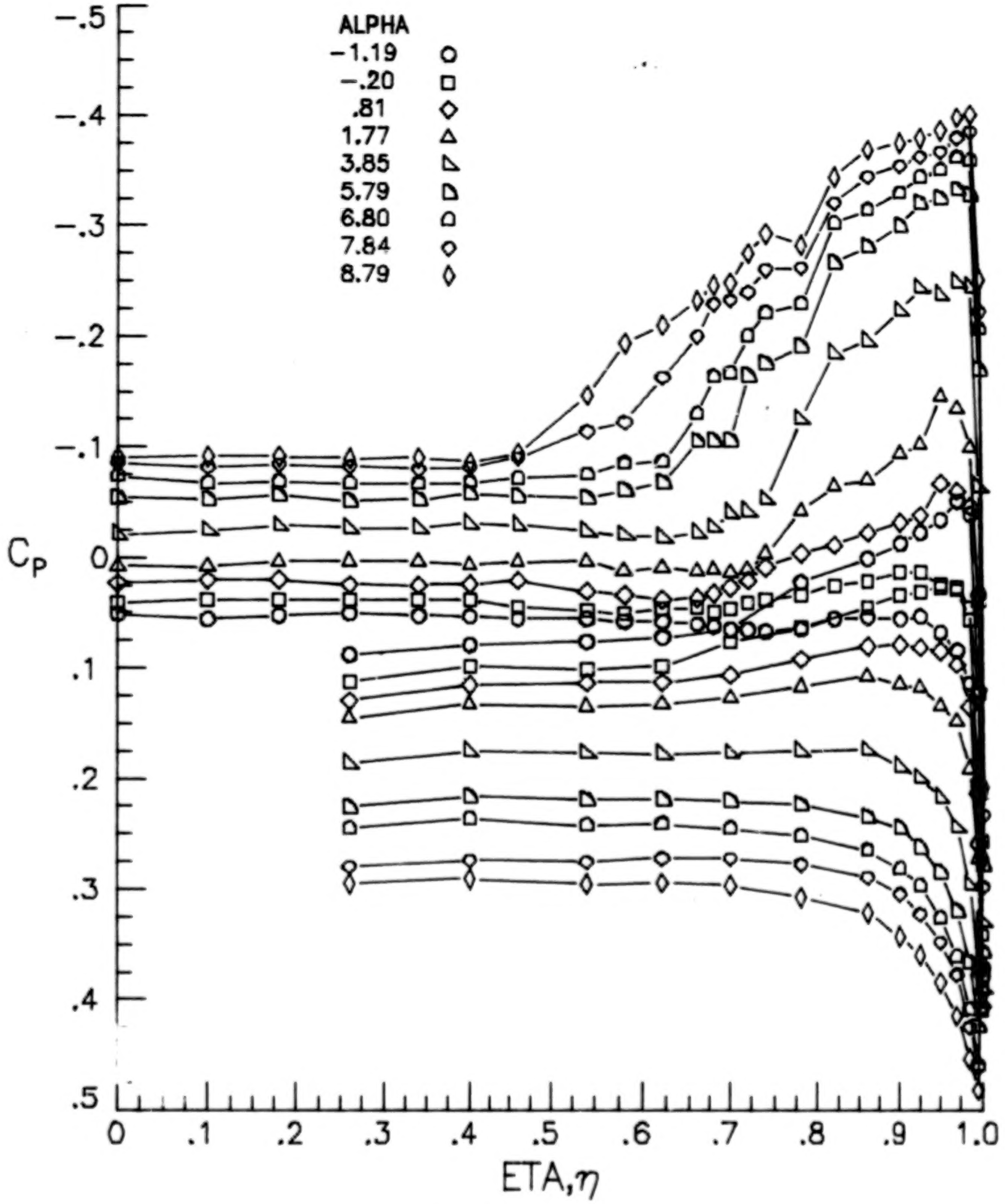
(b) $\alpha \approx 10^o$.

Figure 10.- Continued.



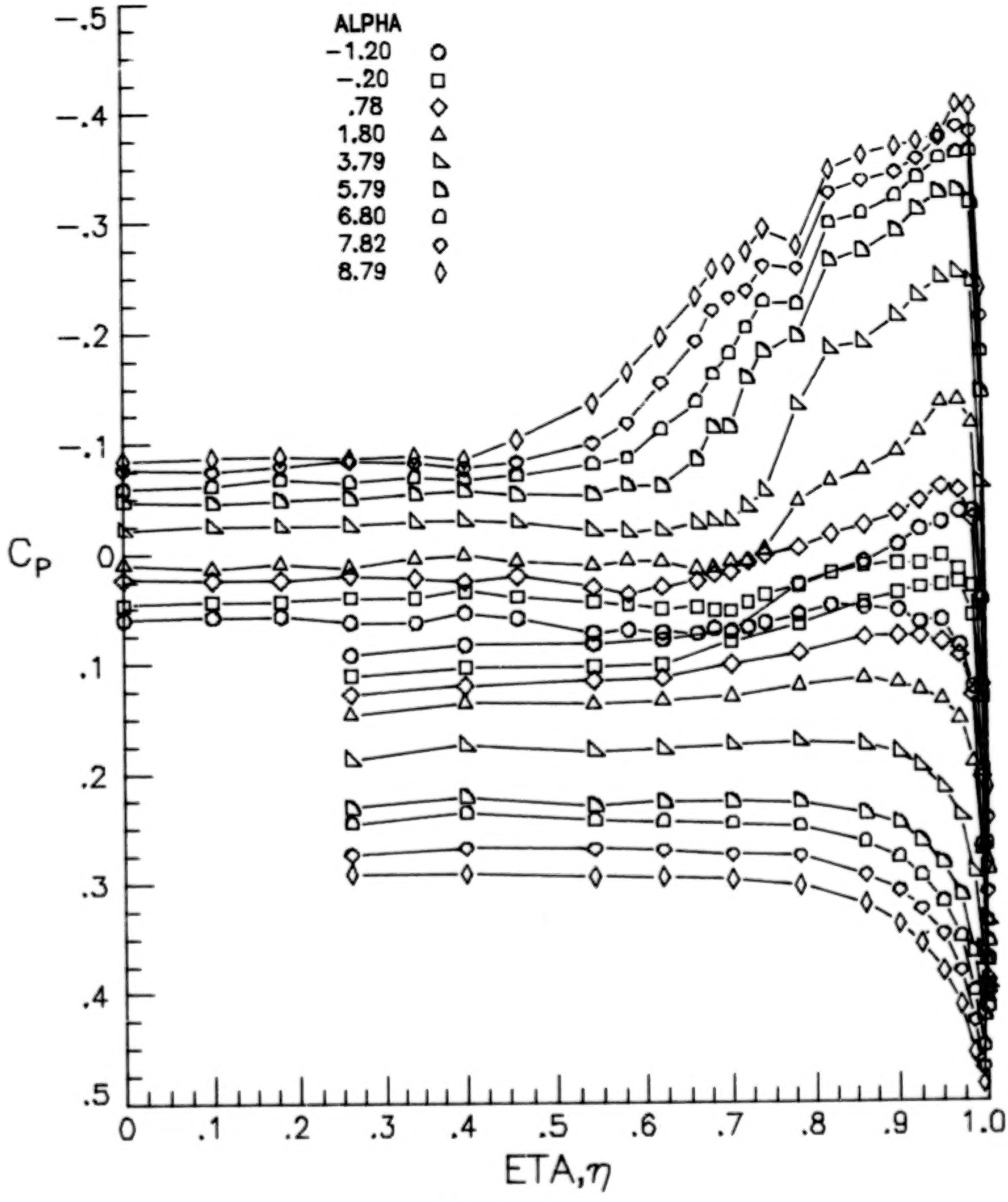
(c) $\alpha \approx 12^{\circ}$.

Figure 10.- Concluded.



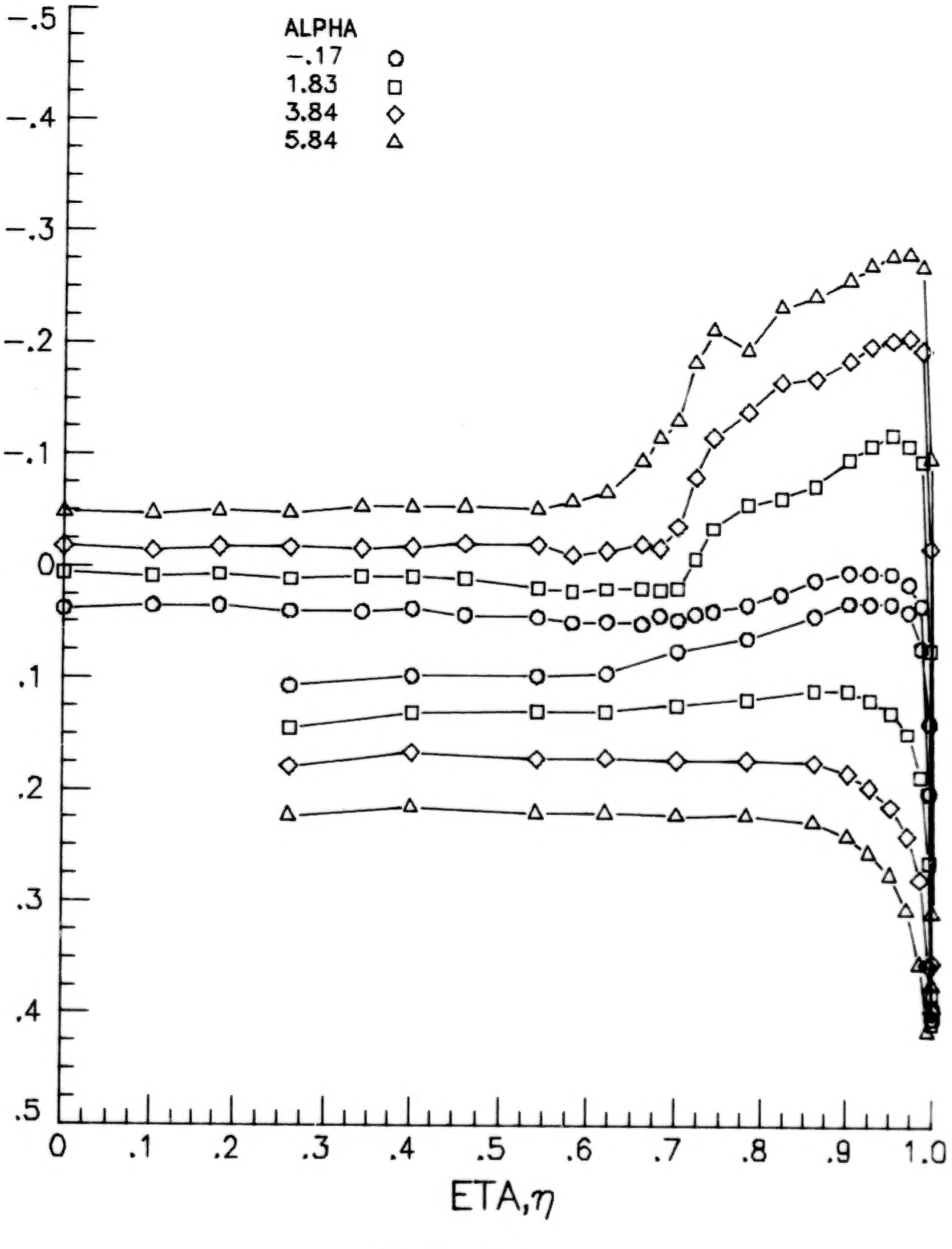
(a) M = 1.60.

Figure 11.- Effect of angle of attack on flat-wing spanwise pressure distributions at $x/\ell = 0.55$ with free transition and $R/m = 6.6 \times 10^6$.



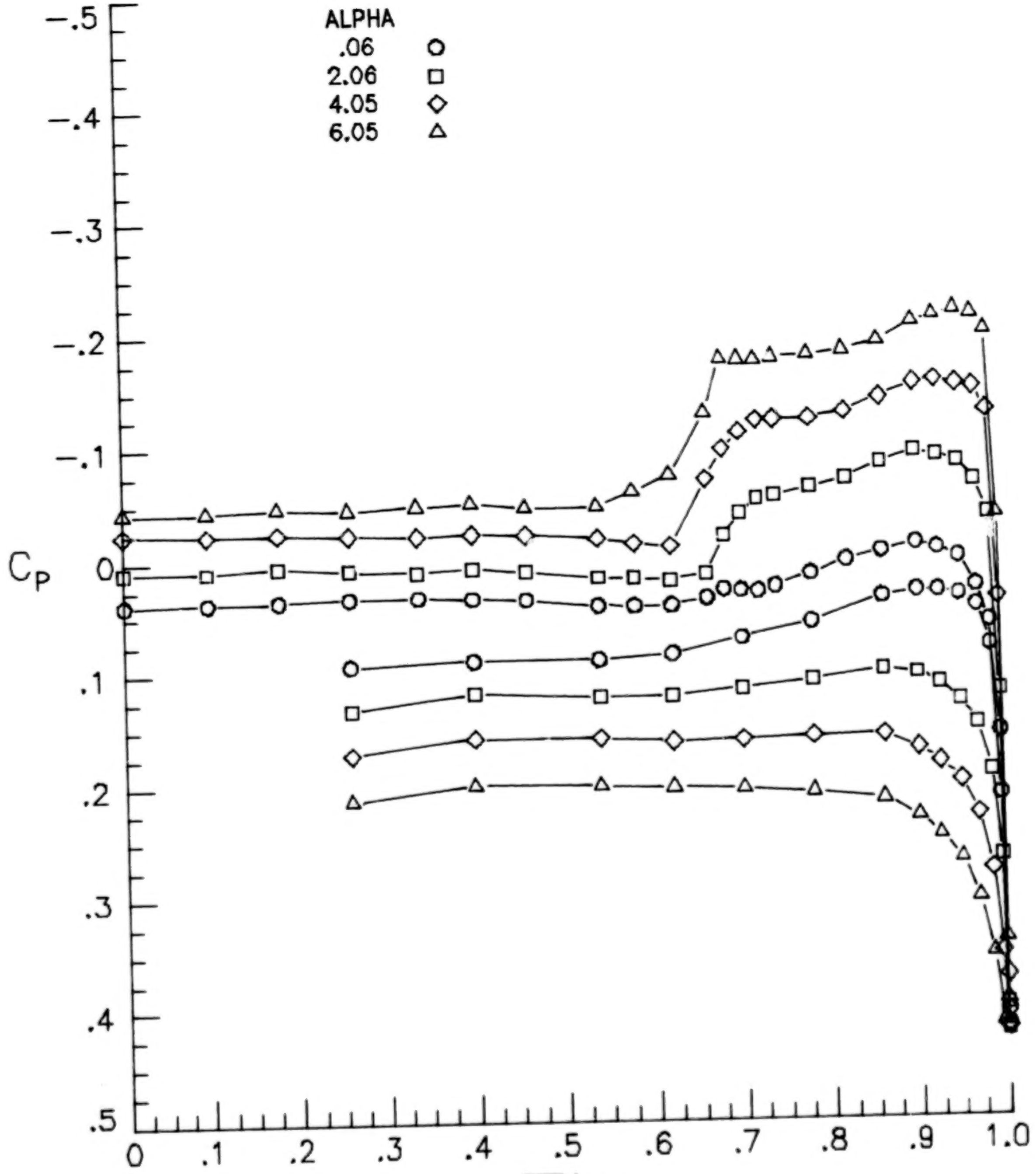
(b) M = 1.62.

Figure 11.- Continued.



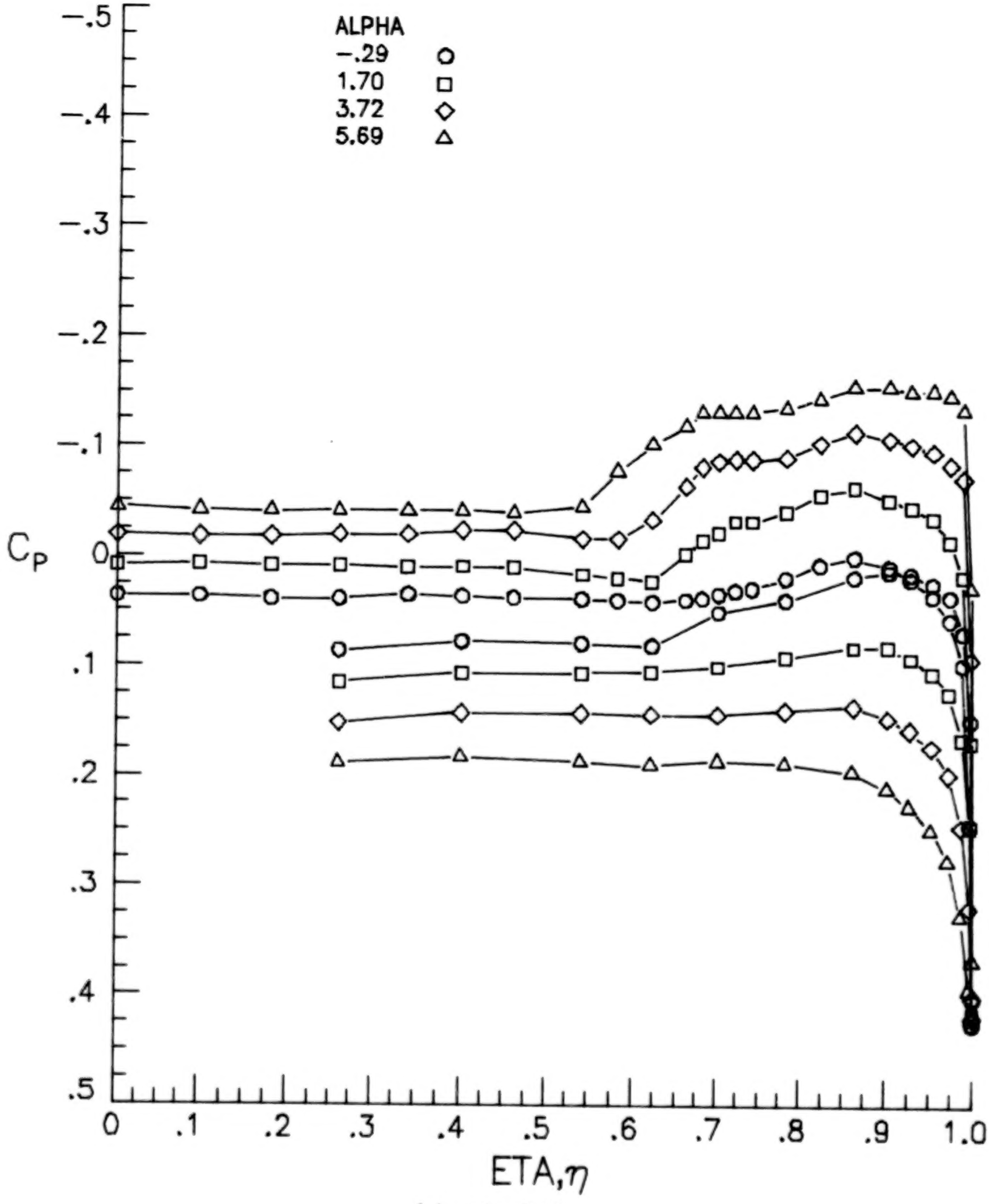
(c) M = 1.70.

Figure 11.- Continued.



(d) M = 1.86.

Figure 11.- Continued.



(e) M = 2.00.

Figure 11.- Concluded.

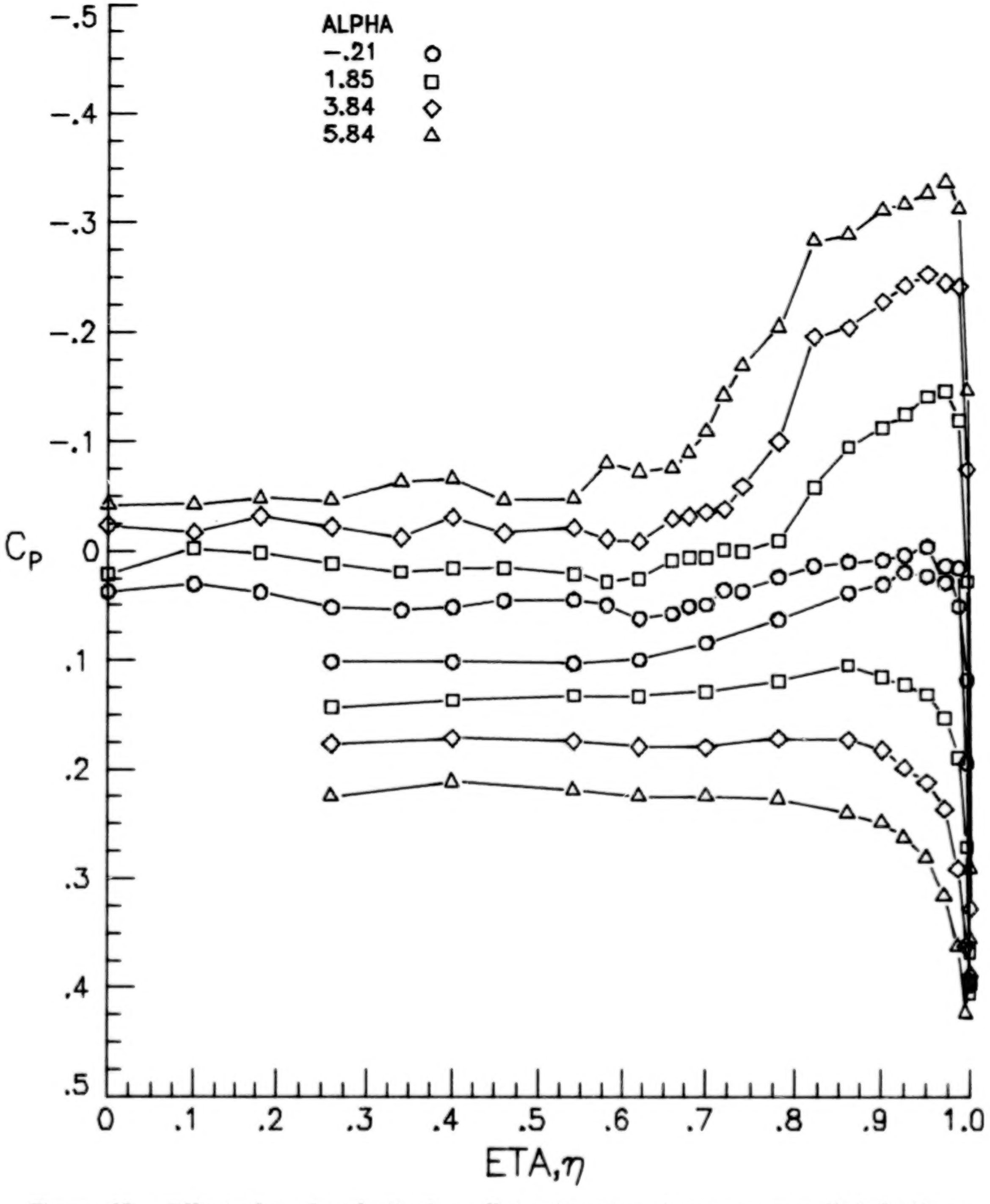
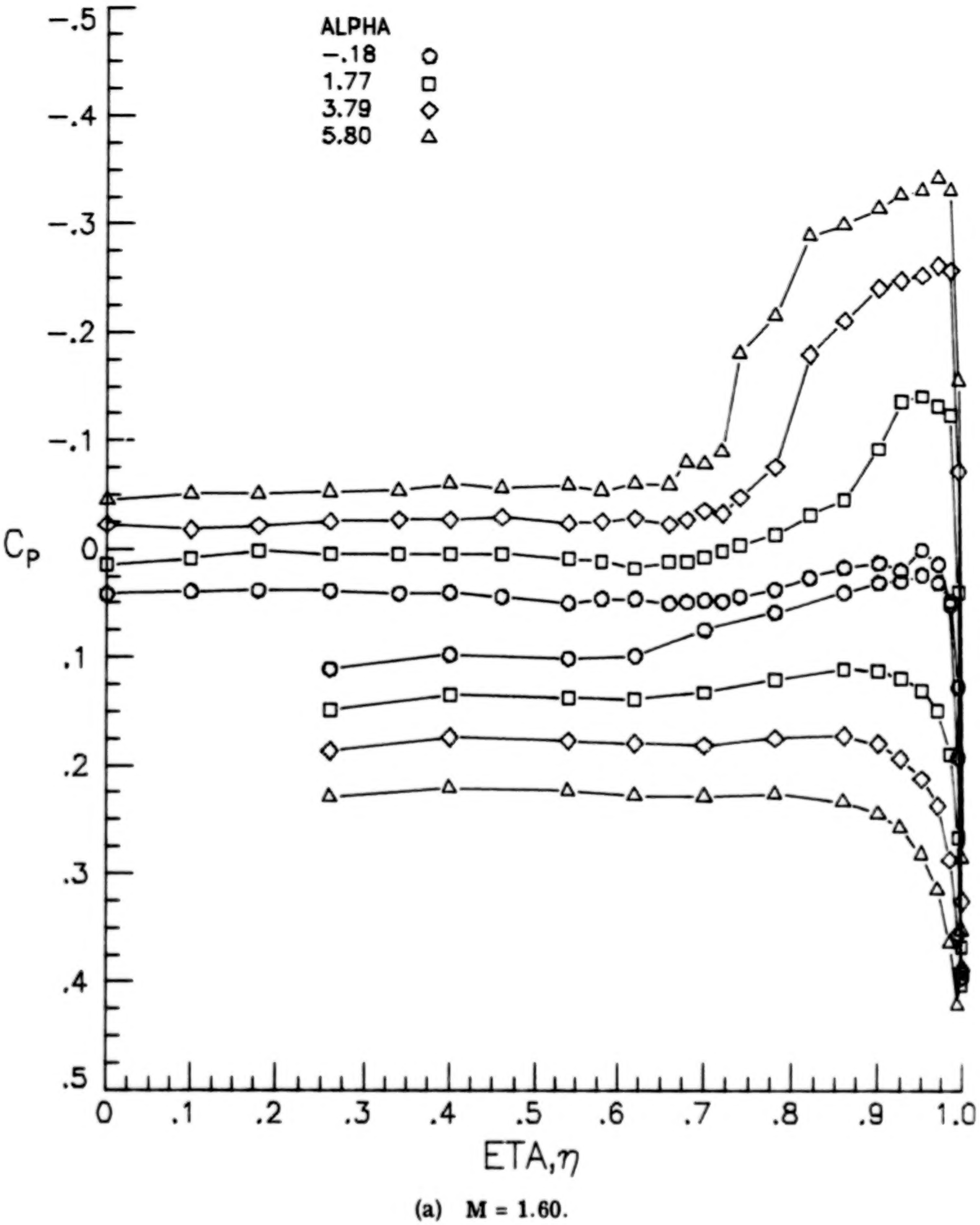
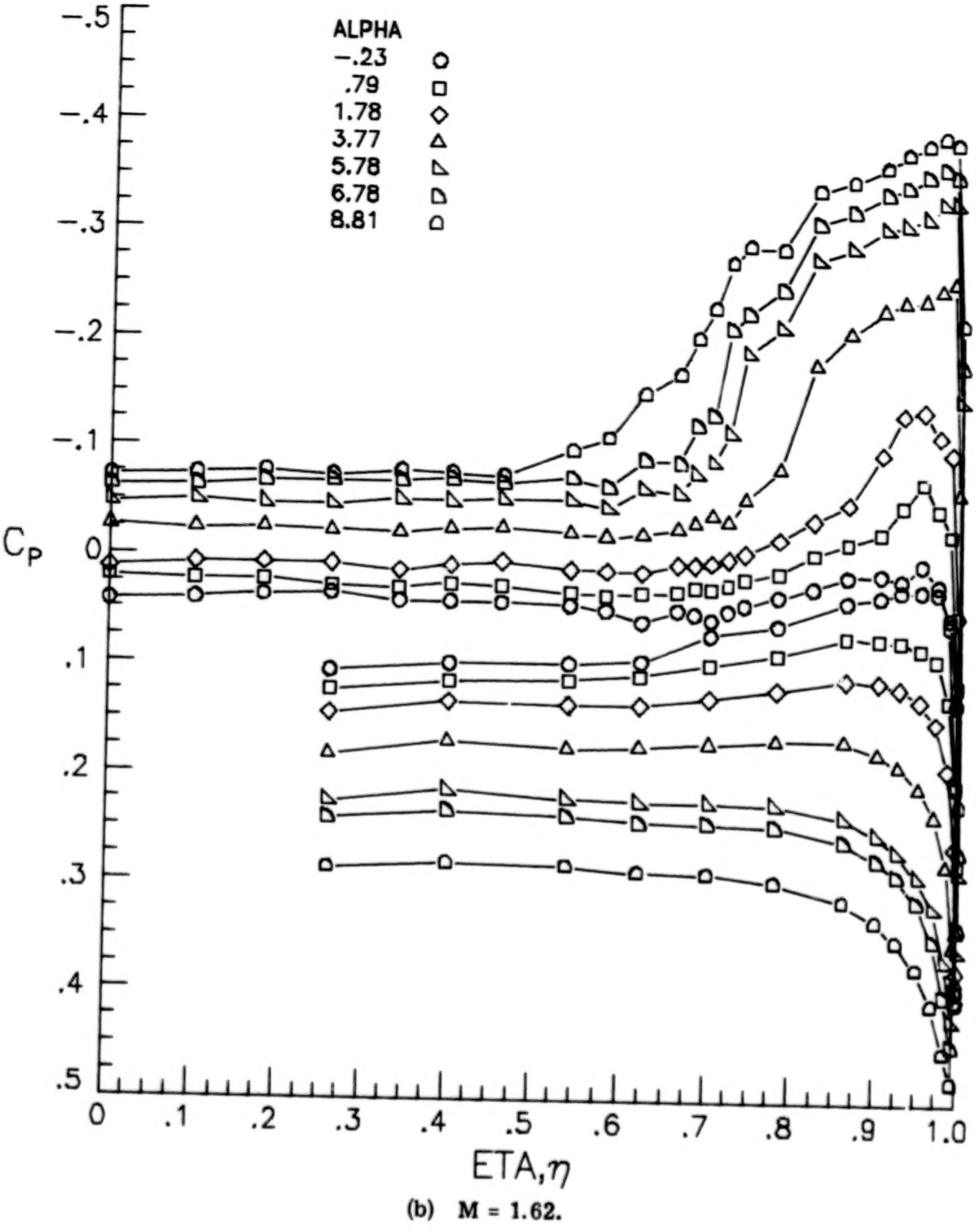


Figure 12.- Effect of angle of attack on flat-wing spanwise pressure distributions at $x/\ell = 0.55$ with free transition, $R/m = 13.1 \times 10^6$ and $M = 1.62$.



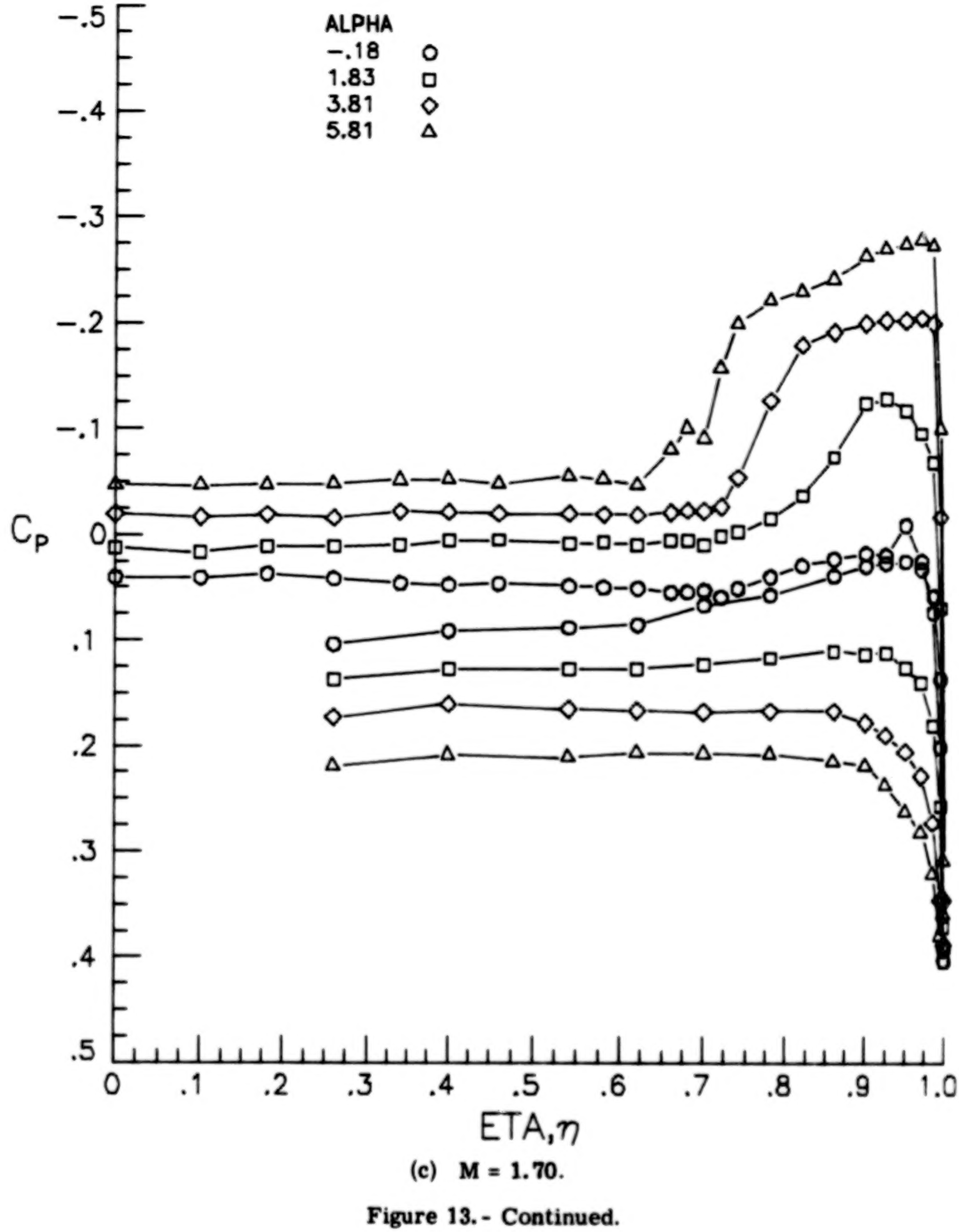
(a) M = 1.60.

Figure 13.- Effect of angle of attack on flat-wing spanwise pressure distributions at $x/\ell = 0.55$ with fixed transition and $R/m = 6.6 \times 10^6$.



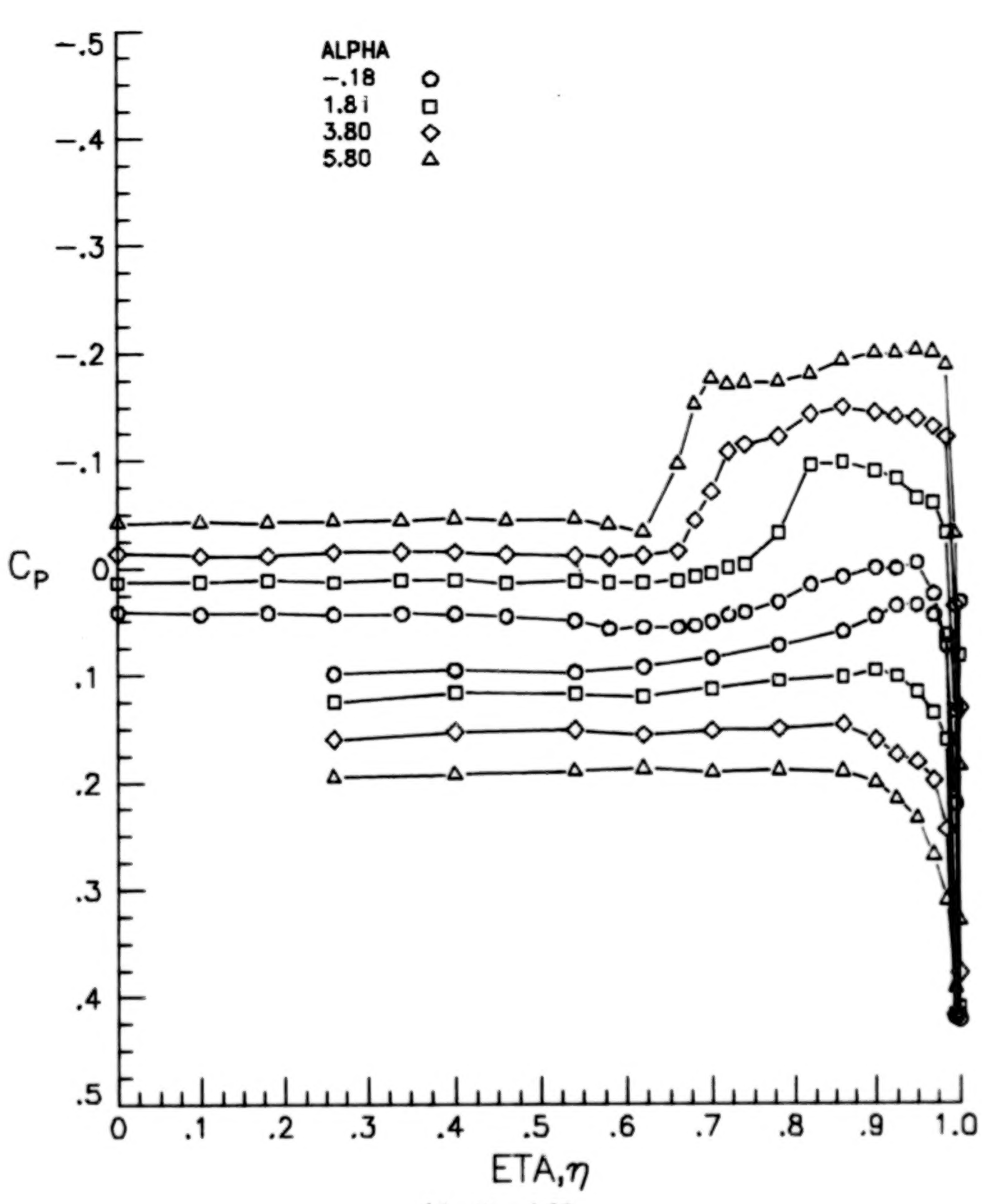
(b) M = 1.62.

Figure 13.- Continued.



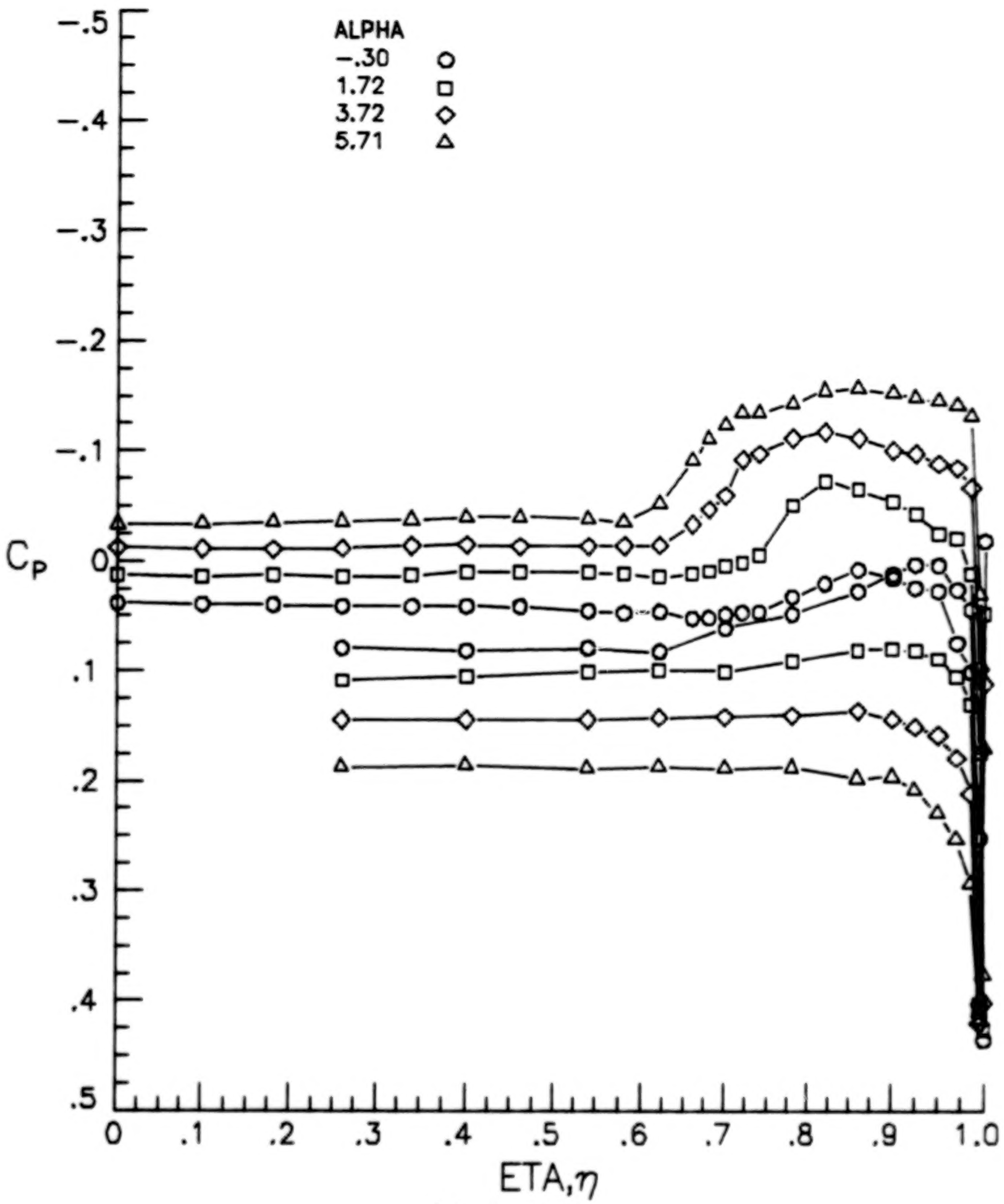
(c) M = 1.70.

Figure 13.- Continued.



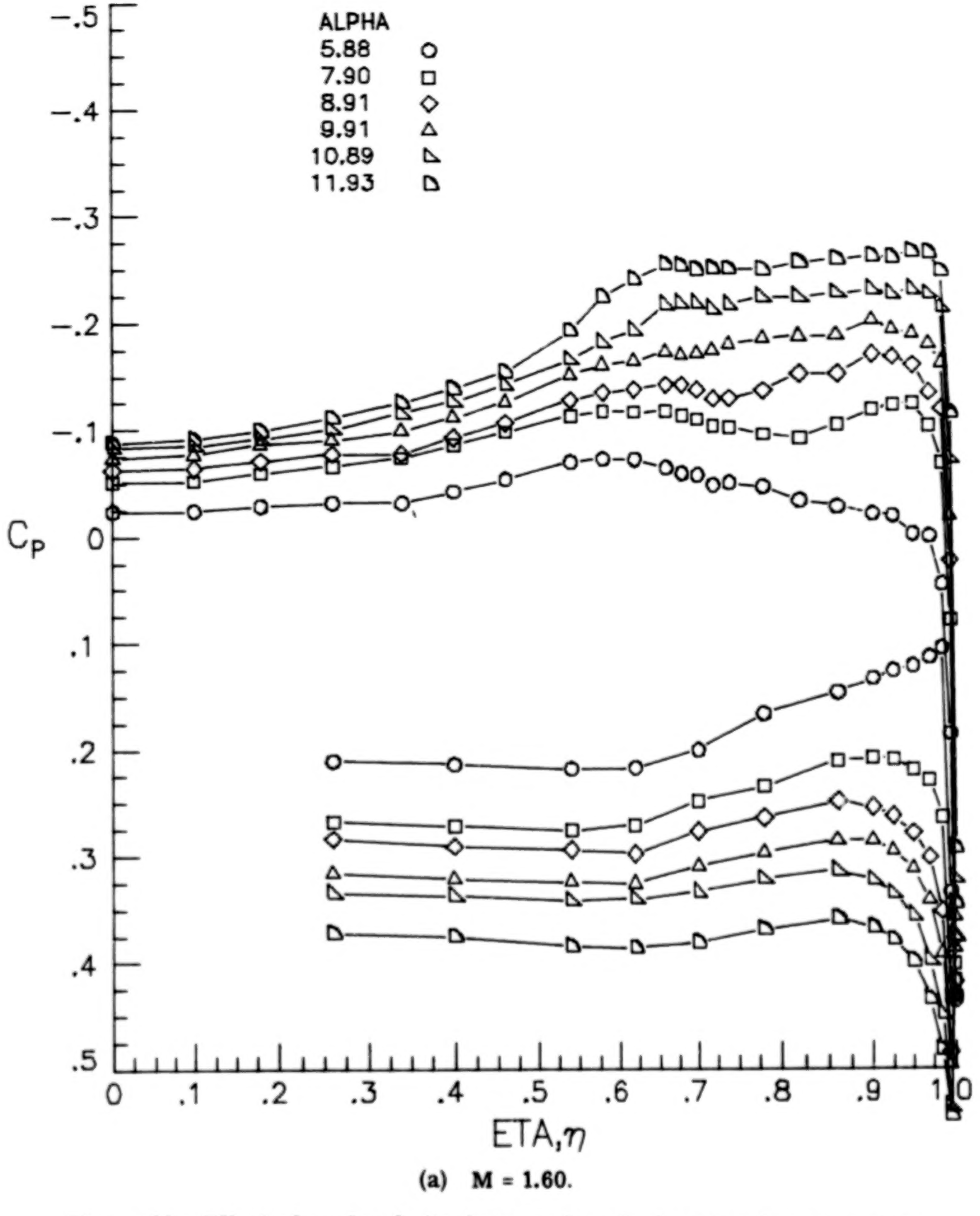
(d) M = 1.86.

Figure 13.- Continued.



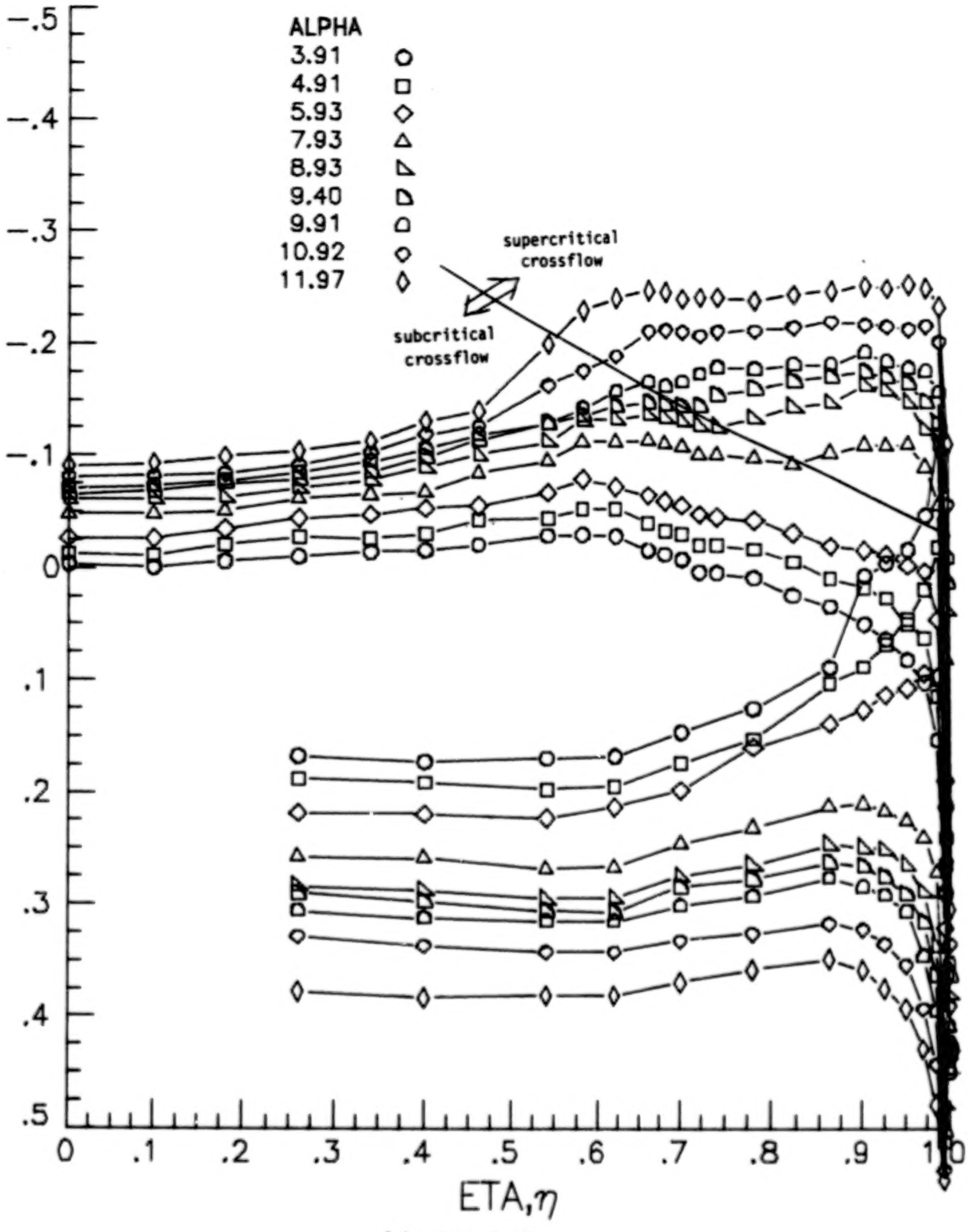
(e) M = 2.00.

Figure 13.- Concluded.



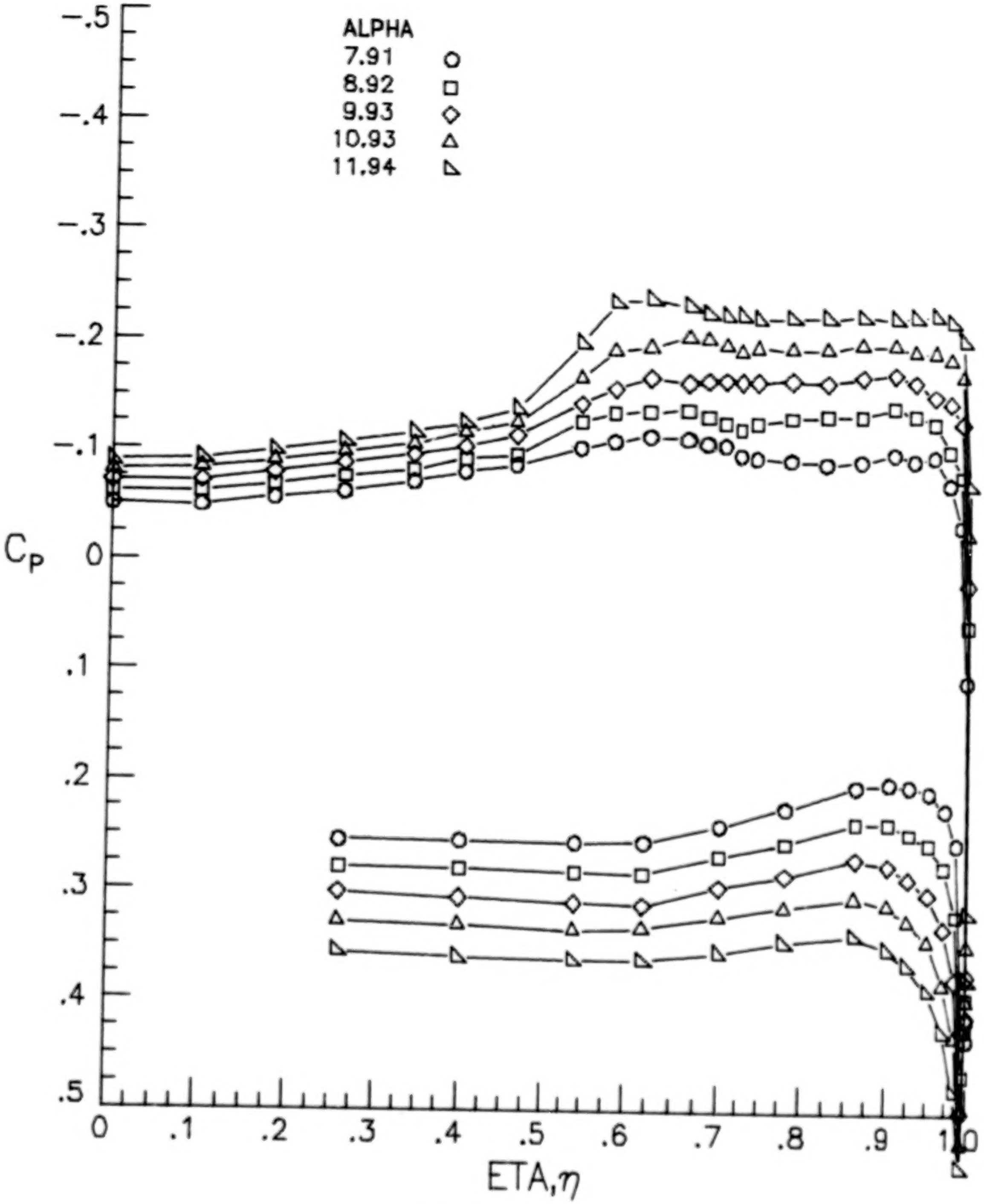
(a) M = 1.60.

Figure 14.- Effect of angle of attack on cambered-wing spanwise pressure distributions at $x/\ell = 0.55$ with fixed transition and $R/m = 6.6 \times 10^6$.



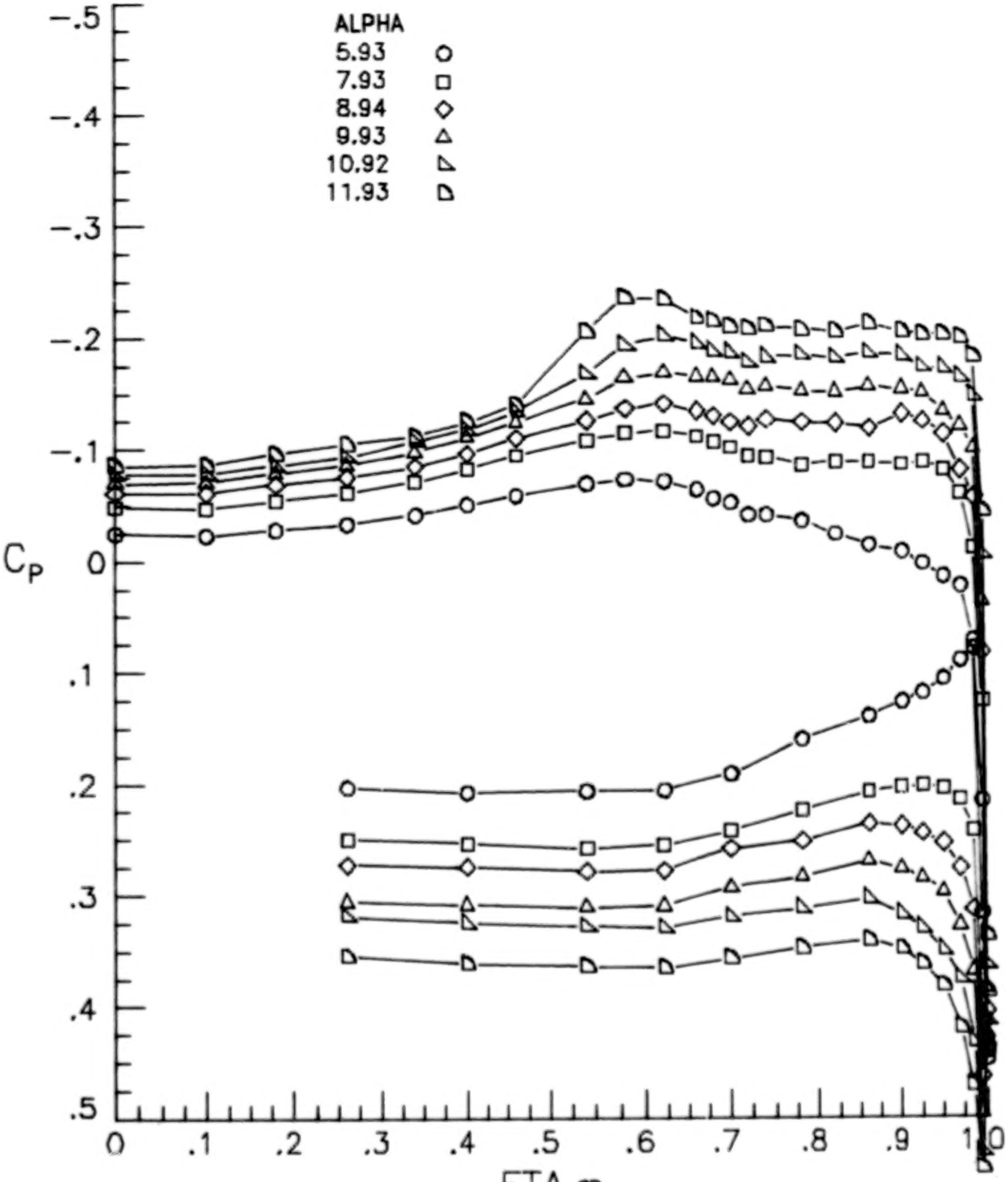
(b) M = 1.62.

Figure 14.- Continued.



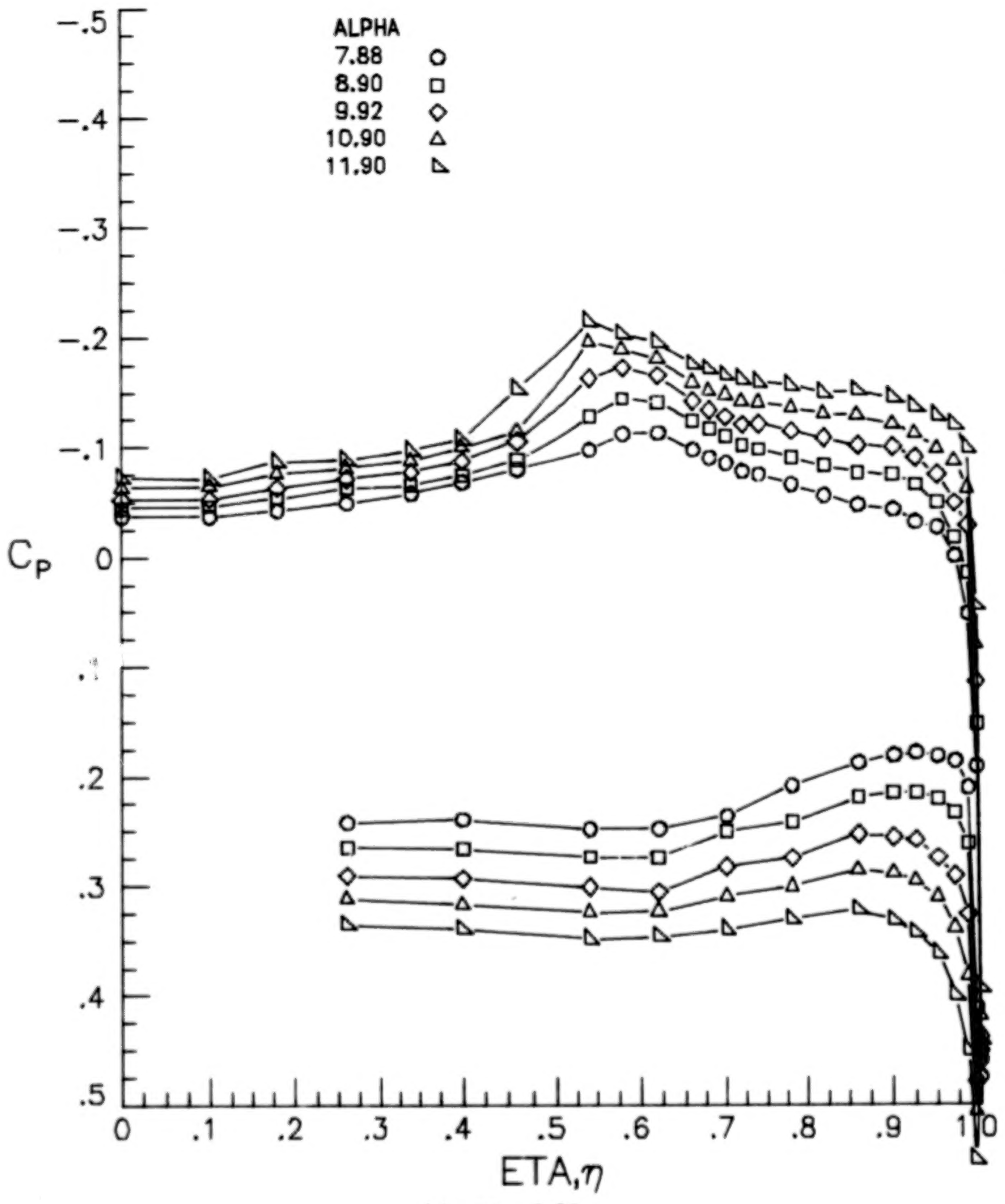
(c) M = 1.66.

Figure 14. - Continued.



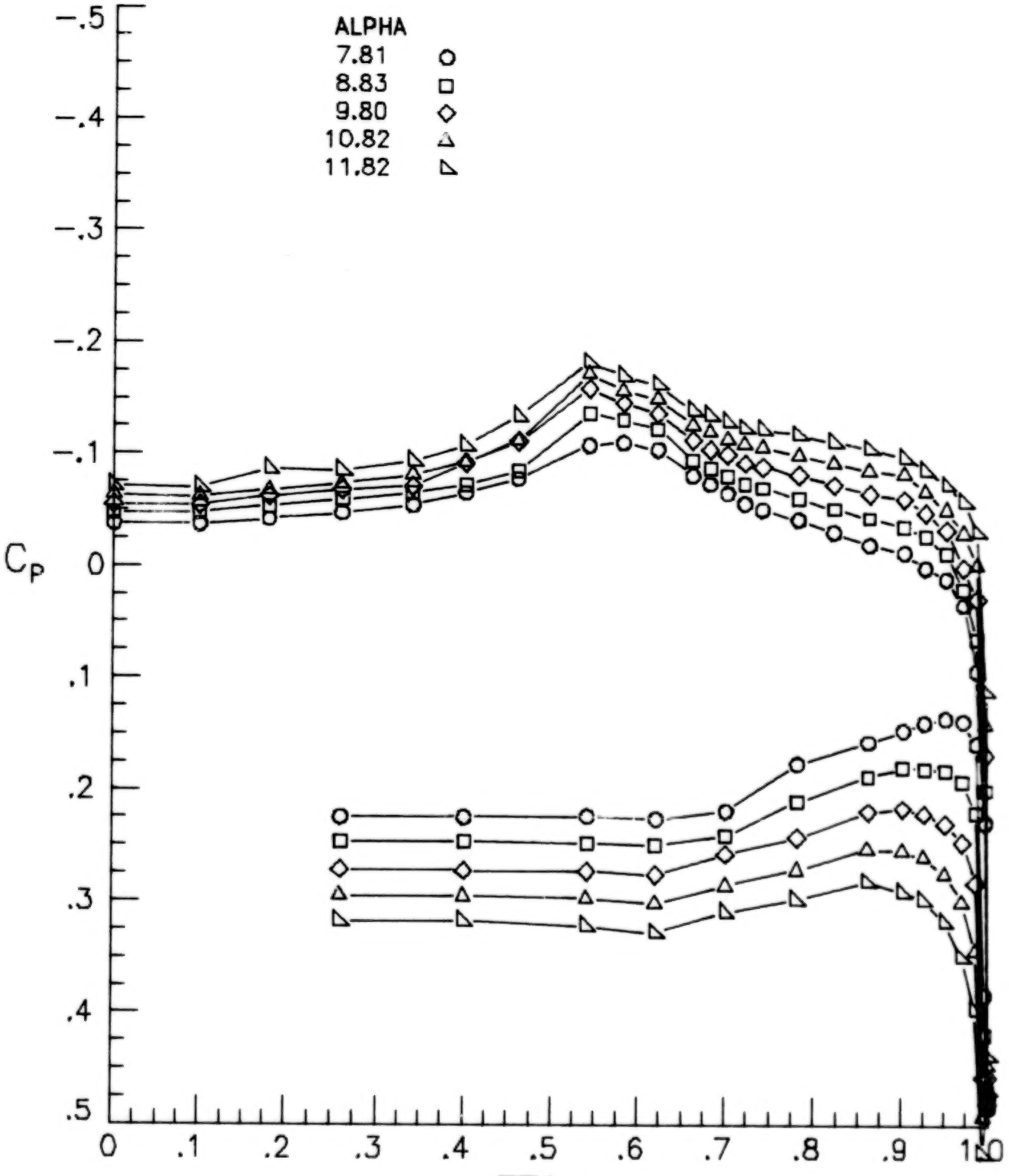
(d) M = 1.70.

Figure 14.- Continued.



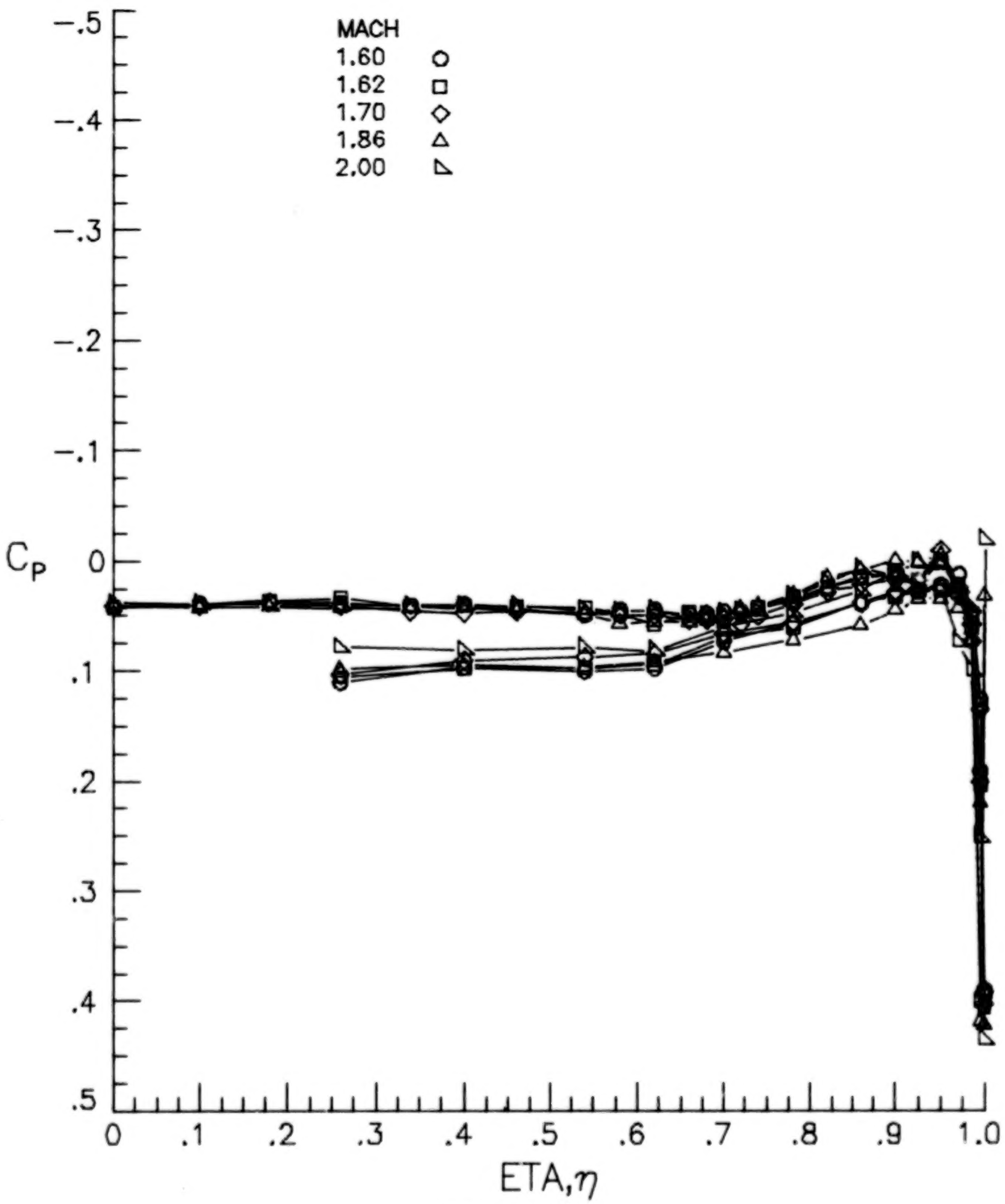
(e) **M = 1.86.**

Figure 14. - Continued.



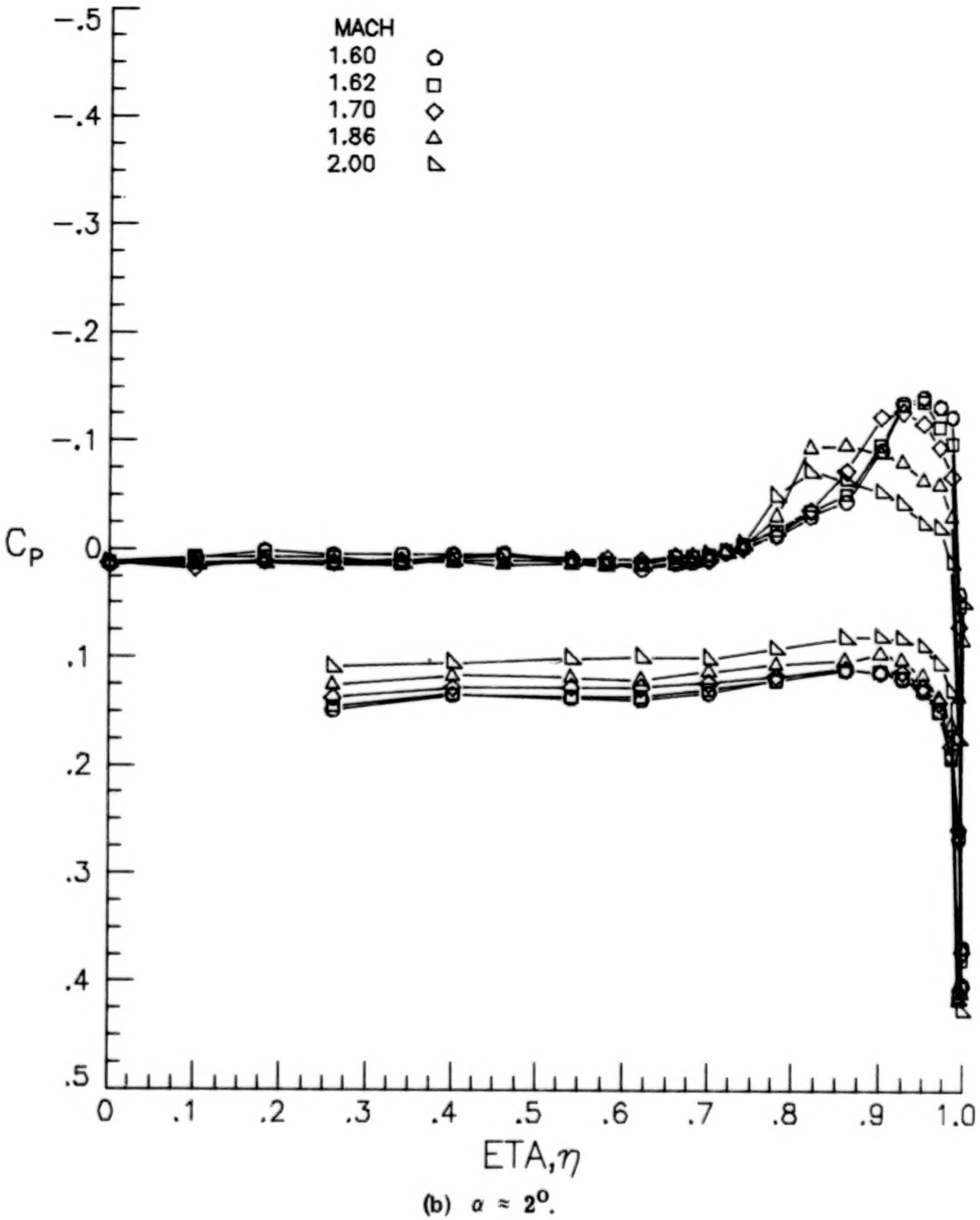
(f) M = 2.00.

Figure 14.- Concluded.



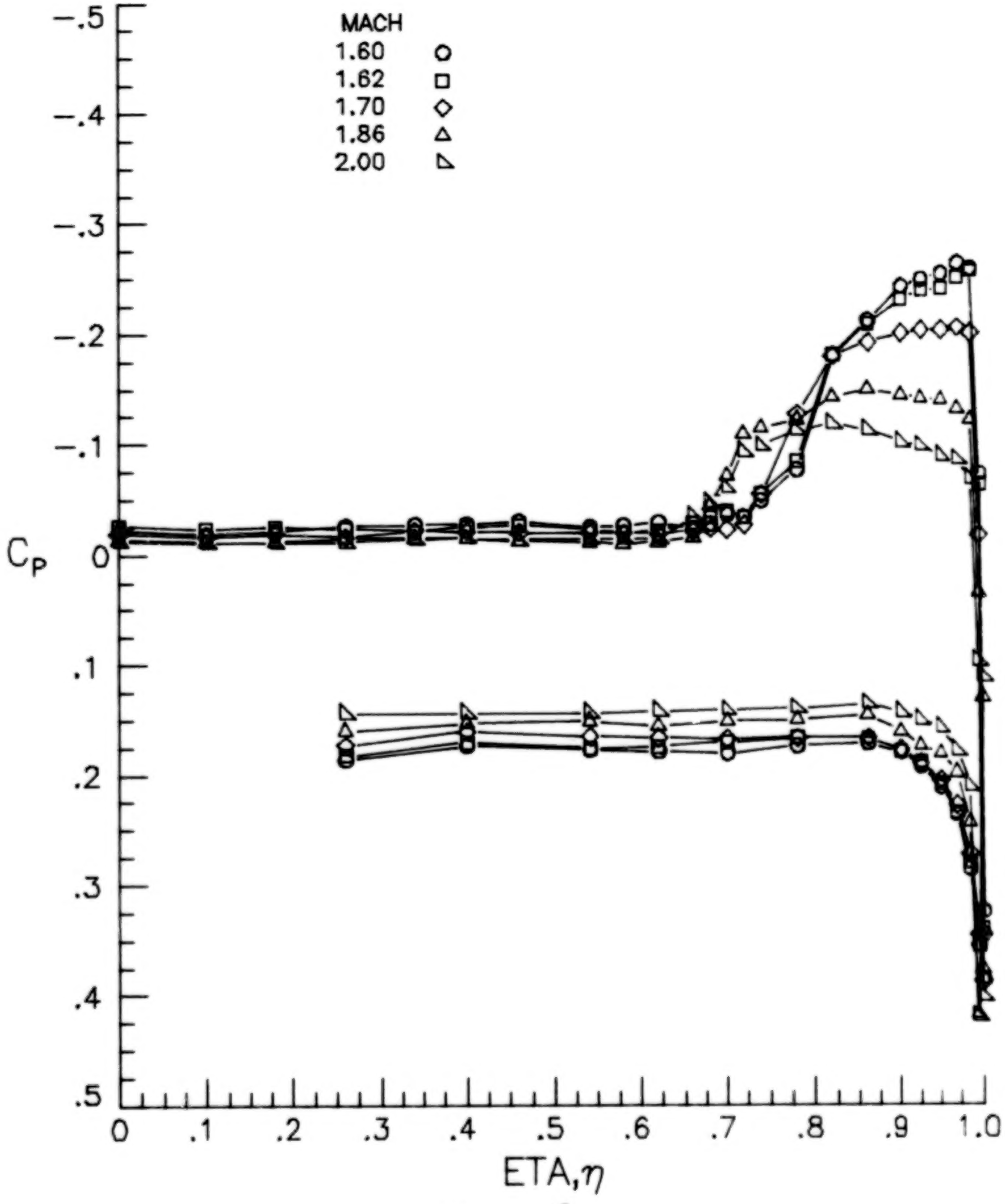
(a) $\alpha \approx 0^{\circ}$.

Figure 15.- Effect of Mach number on spanwise pressure distributions for flat wing with fixed transition at $x/\ell = 0.55$ and $R/m = 6.6 \times 10^6$.



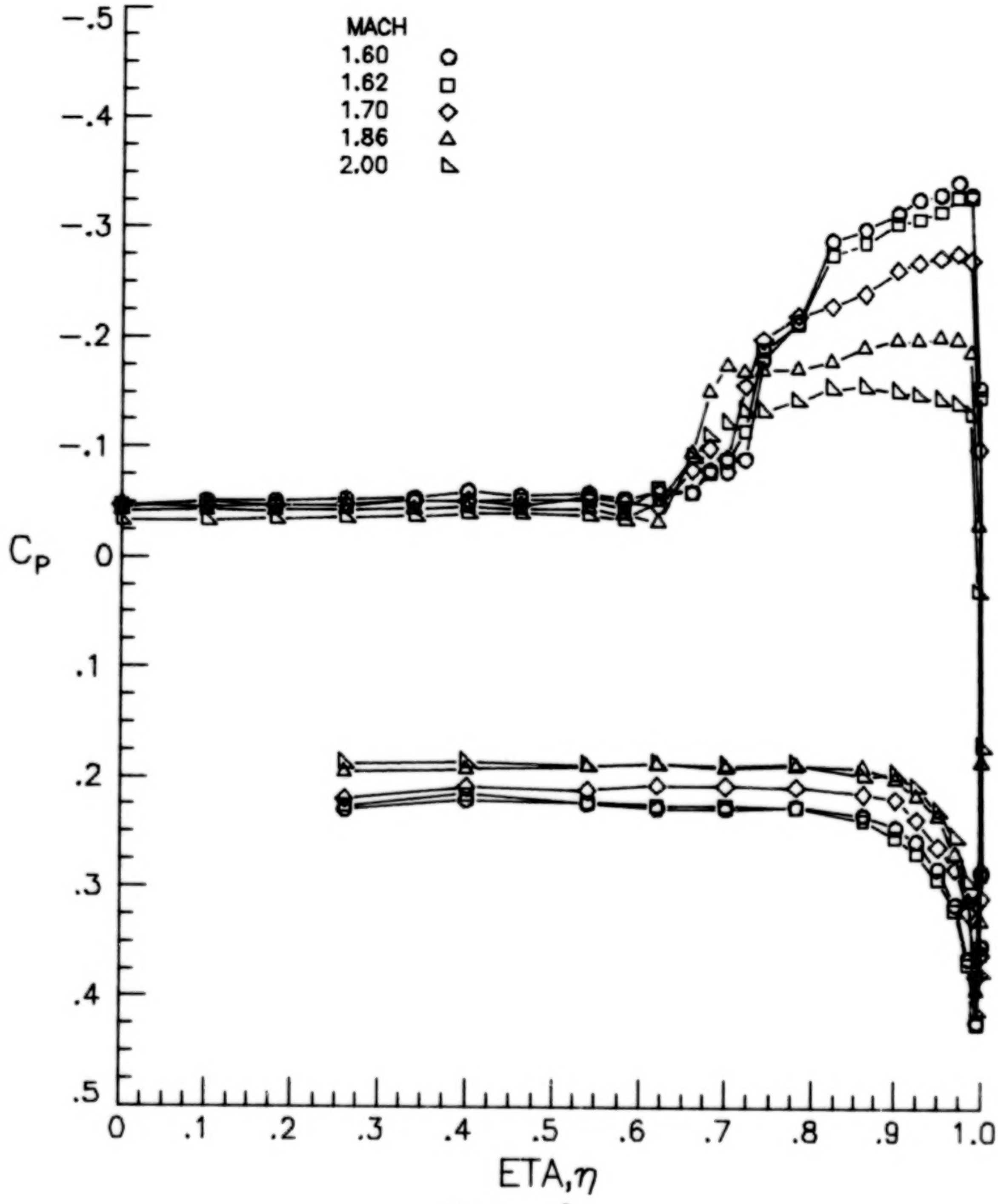
(b) $\alpha \approx 2^{\circ}$.

Figure 15.- Continued.



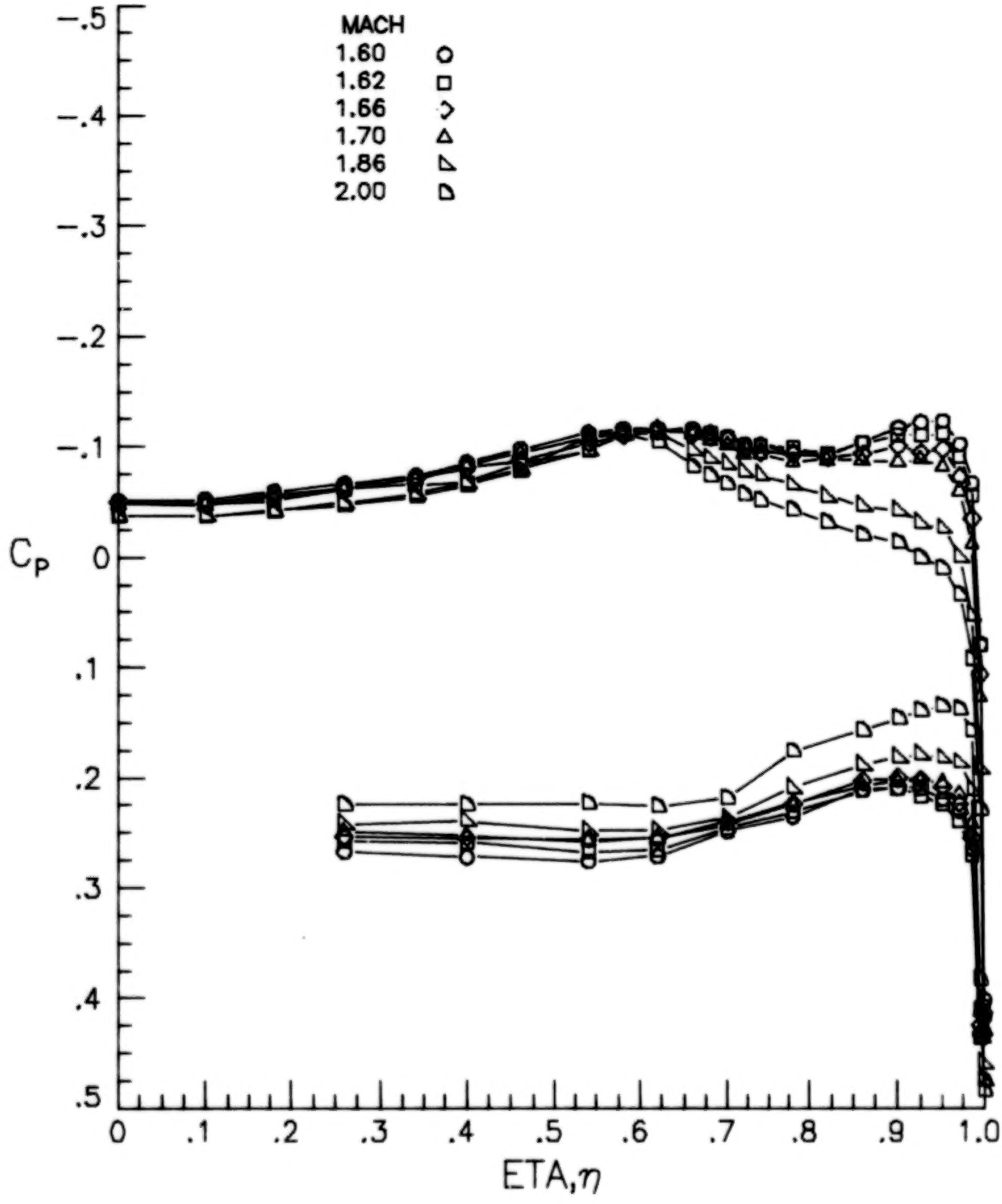
(c) $\alpha \approx 4^{\circ}$.

Figure 15.- Continued.



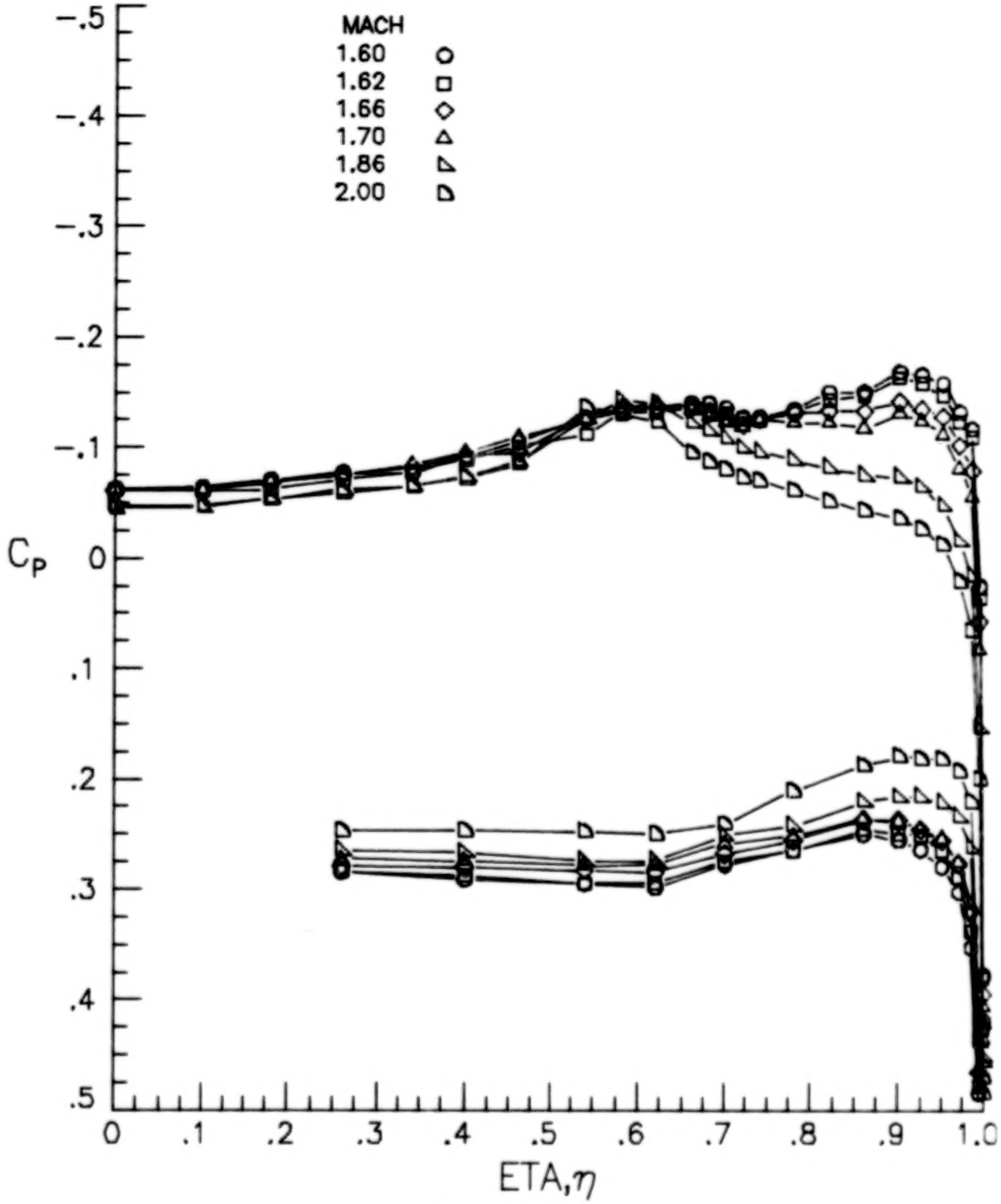
(d) $\alpha \approx 6^{\circ}$.

Figure 15.- Concluded.



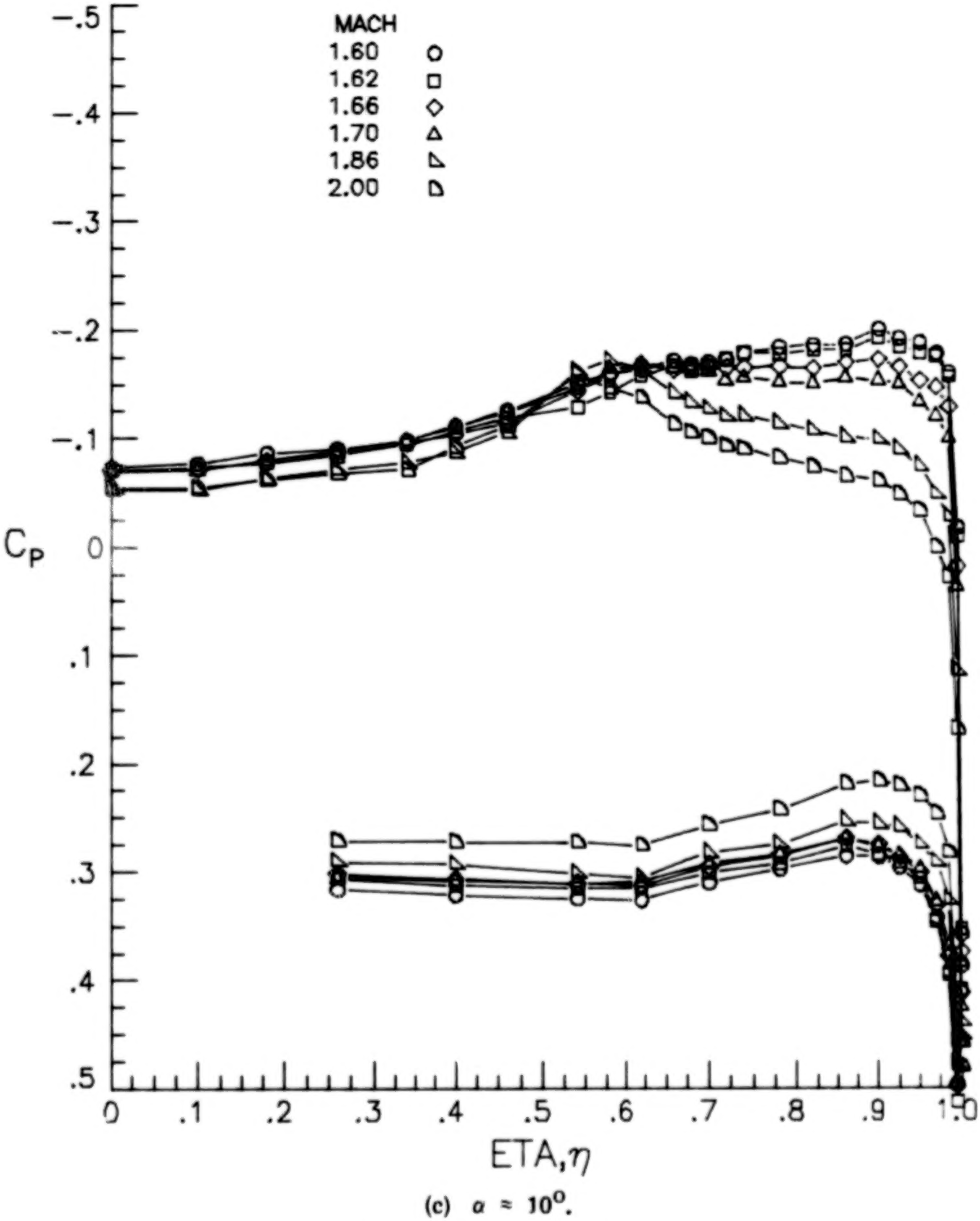
(a) $\alpha \approx 8^{\circ}$.

Figure 16. - **Effect of Mach number on spanwise pressure distributions at $x/\ell = 0.55$ for cambered wing with fixed transition and $R/m = 6.6 \times 10^6$.**



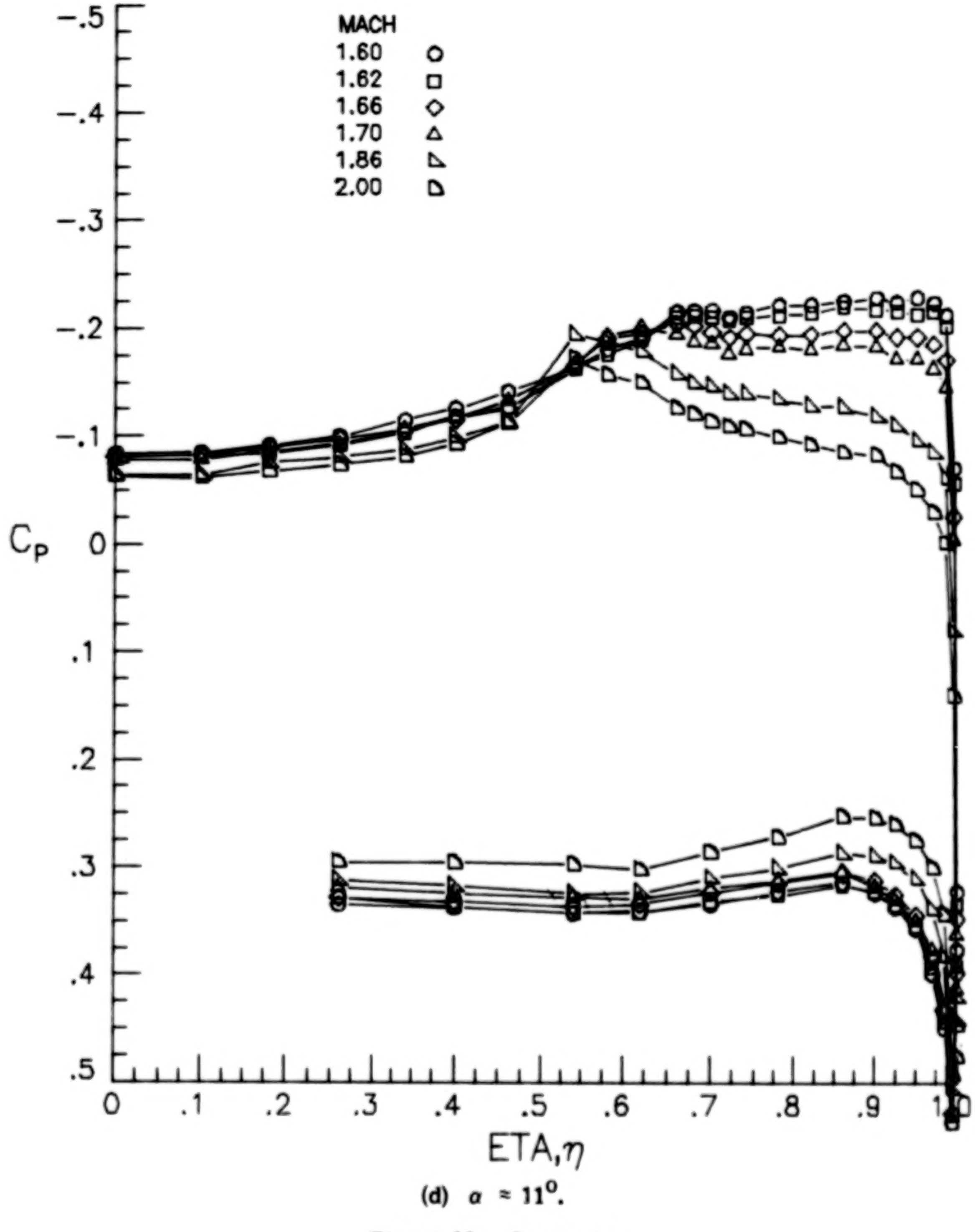
(b) $\alpha \approx 9^{\circ}$.

Figure 16.- Continued.



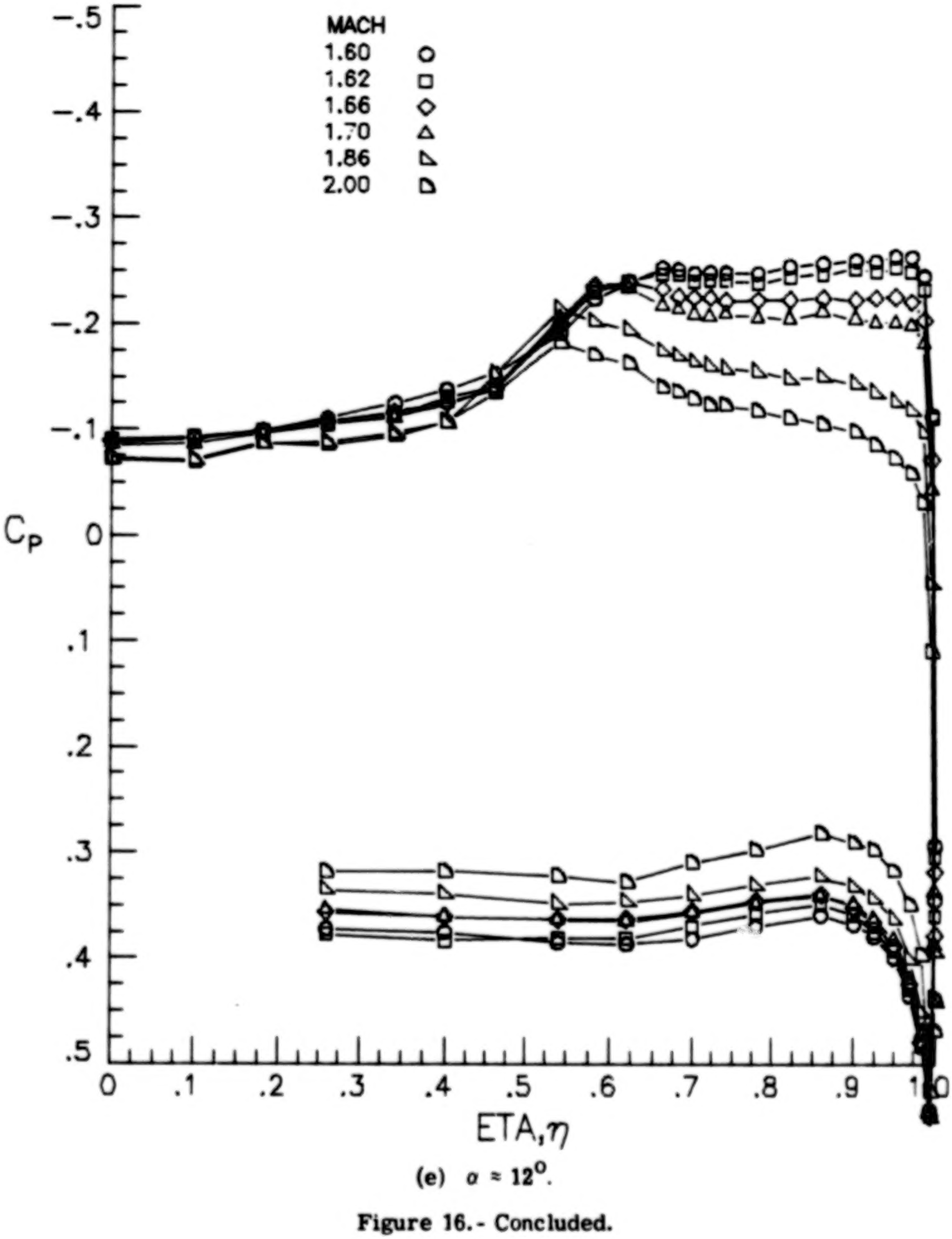
(c) $\alpha \approx 10^{\circ}$.

Figure 16. - Continued.



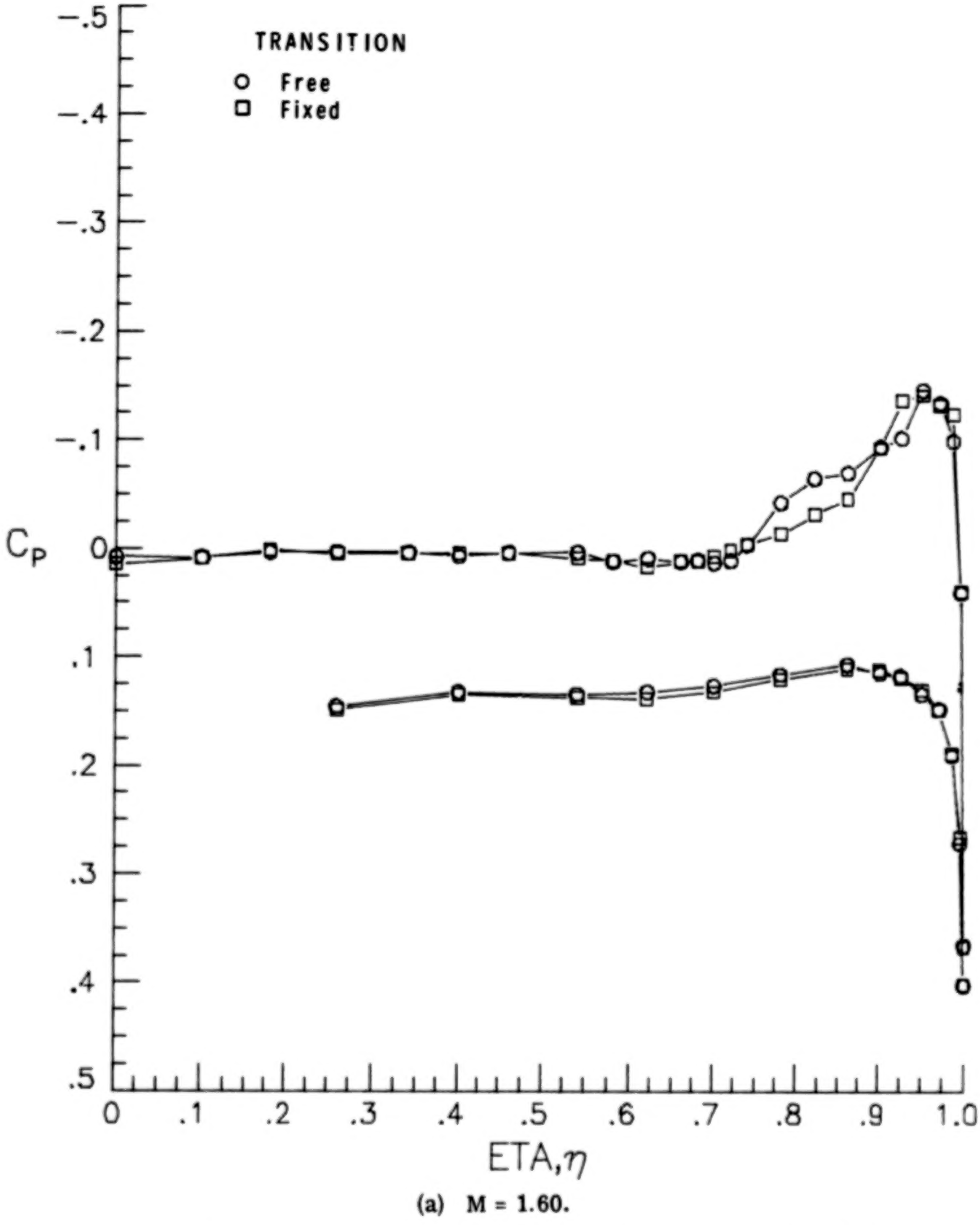
(d) $\alpha \approx 11^{\circ}$.

Figure 16. - Continued.



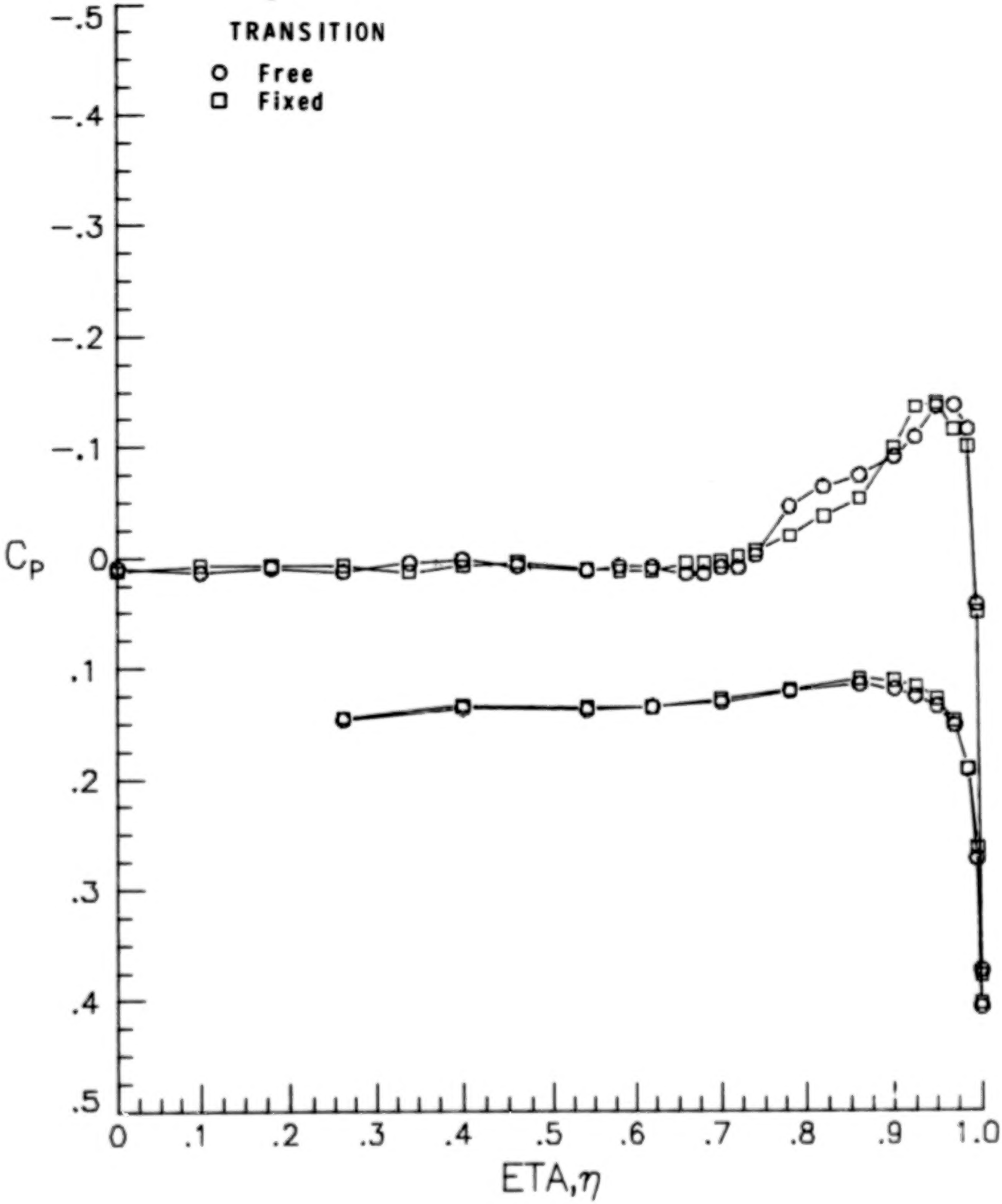
(e) $\alpha \approx 12^{\circ}$.

Figure 16.- Concluded.



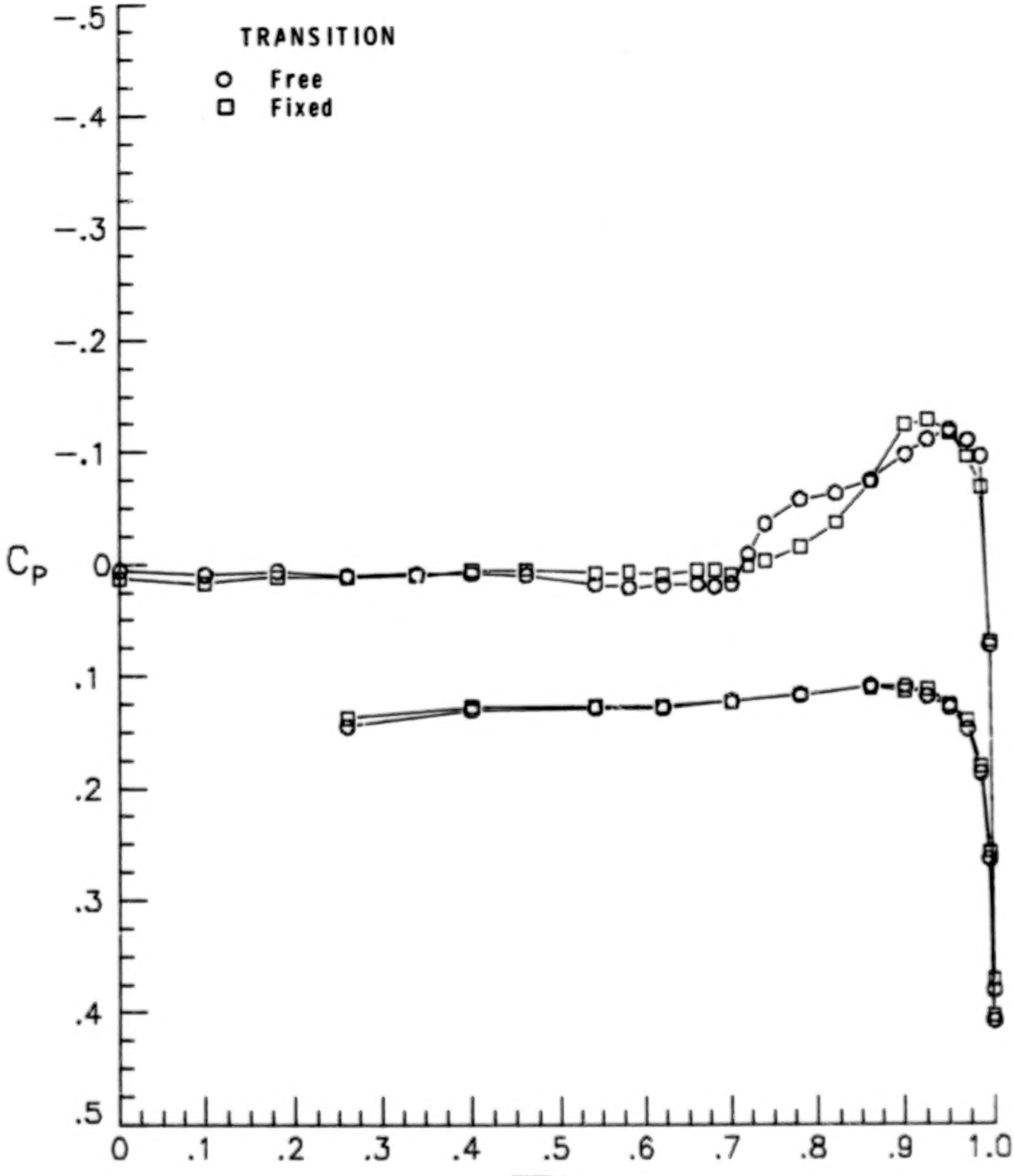
(a) M = 1.60.

Figure 17.- Effect of transition on flat-wing spanwise pressure distributions at $x/\ell = 0.55$ for $R/m = 6.6 \times 10^6$ and $\alpha \approx 2^\circ$.



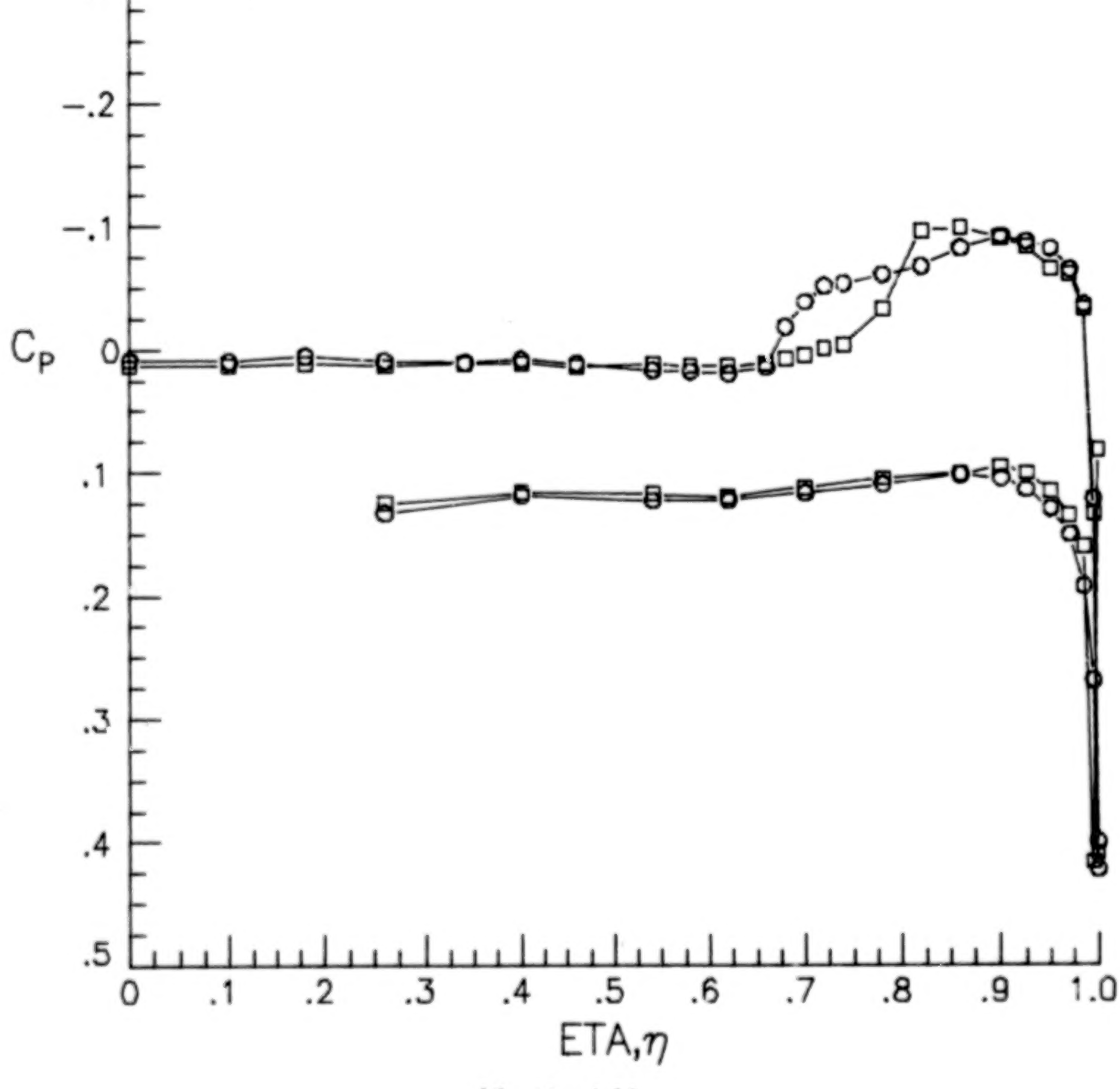
(b) M = 1.62.

Figure 17.- Continued.



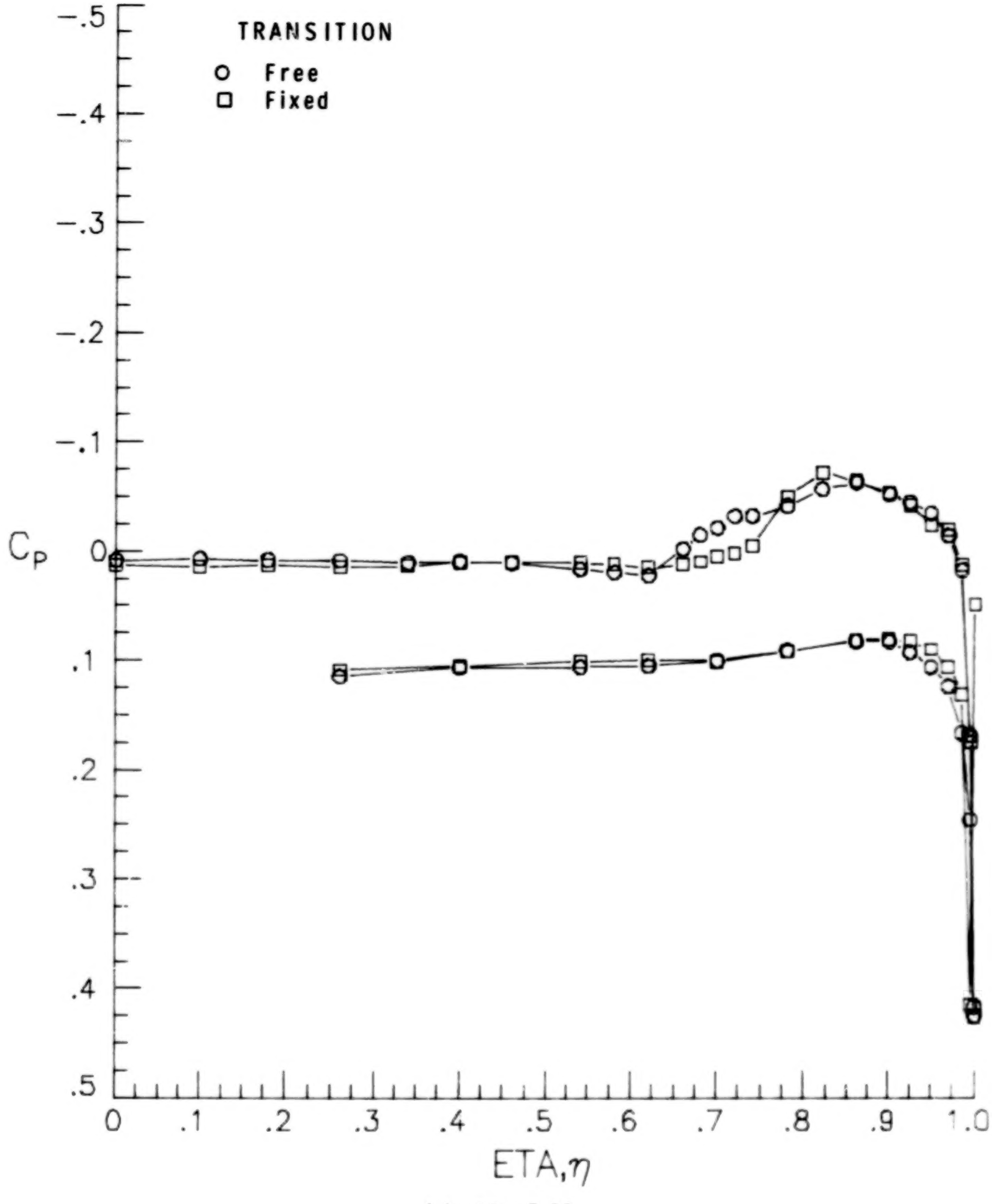
(c) M = 1.70.

Figure 17.- Continued.



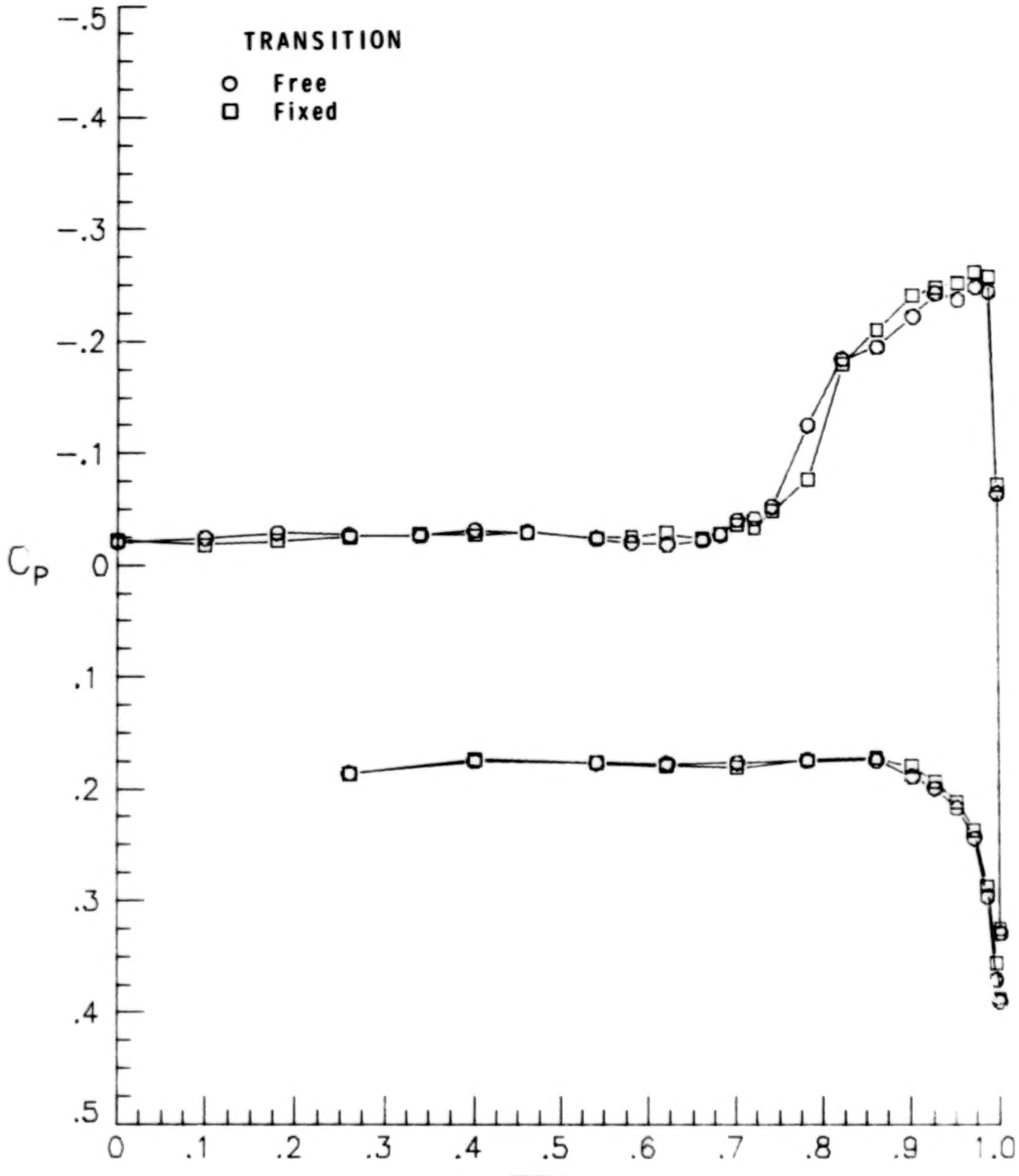
(d) M = 1.86.

Figure 17.- Continued.



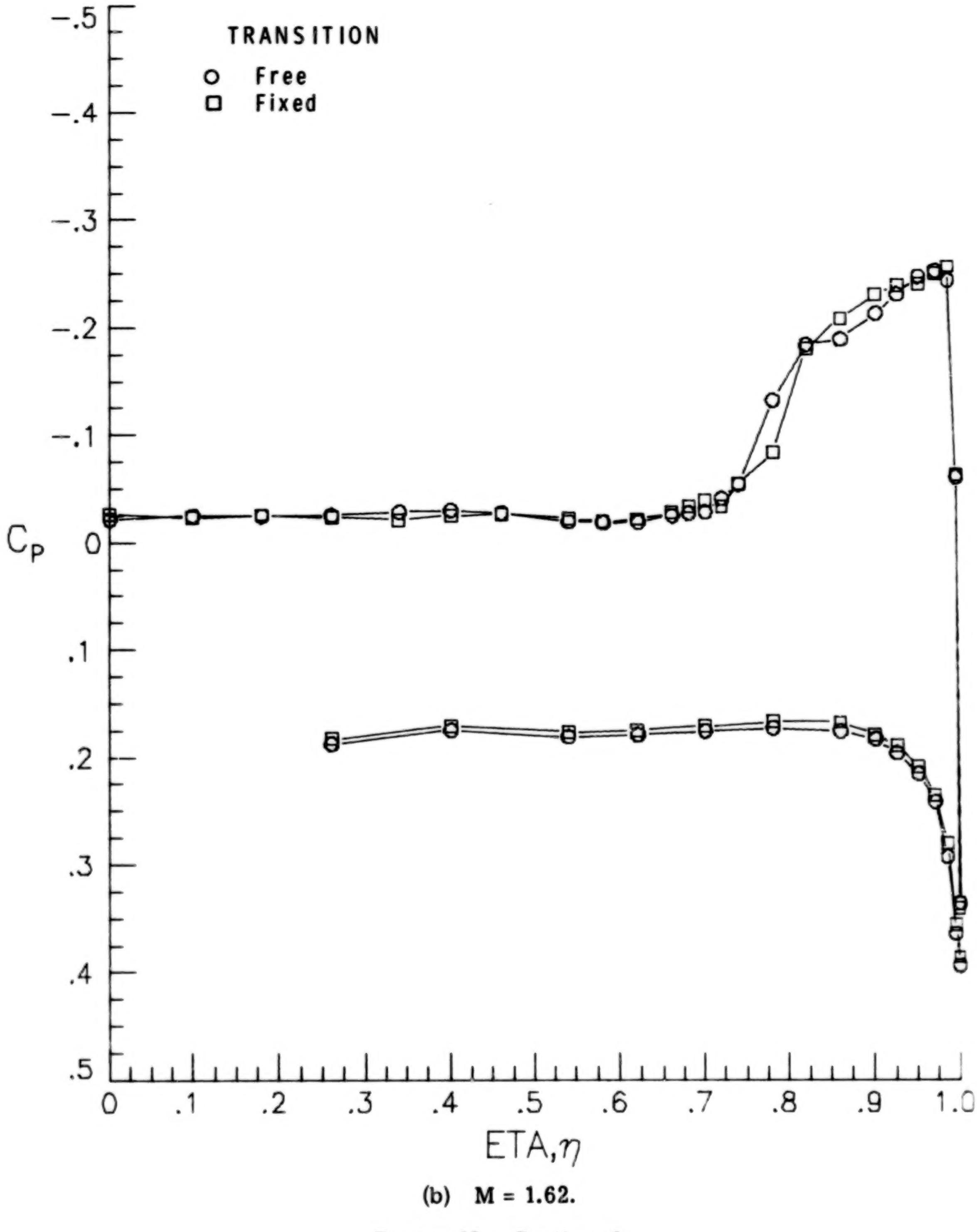
(e) M = 2.00.

Figure 17. - Concluded.



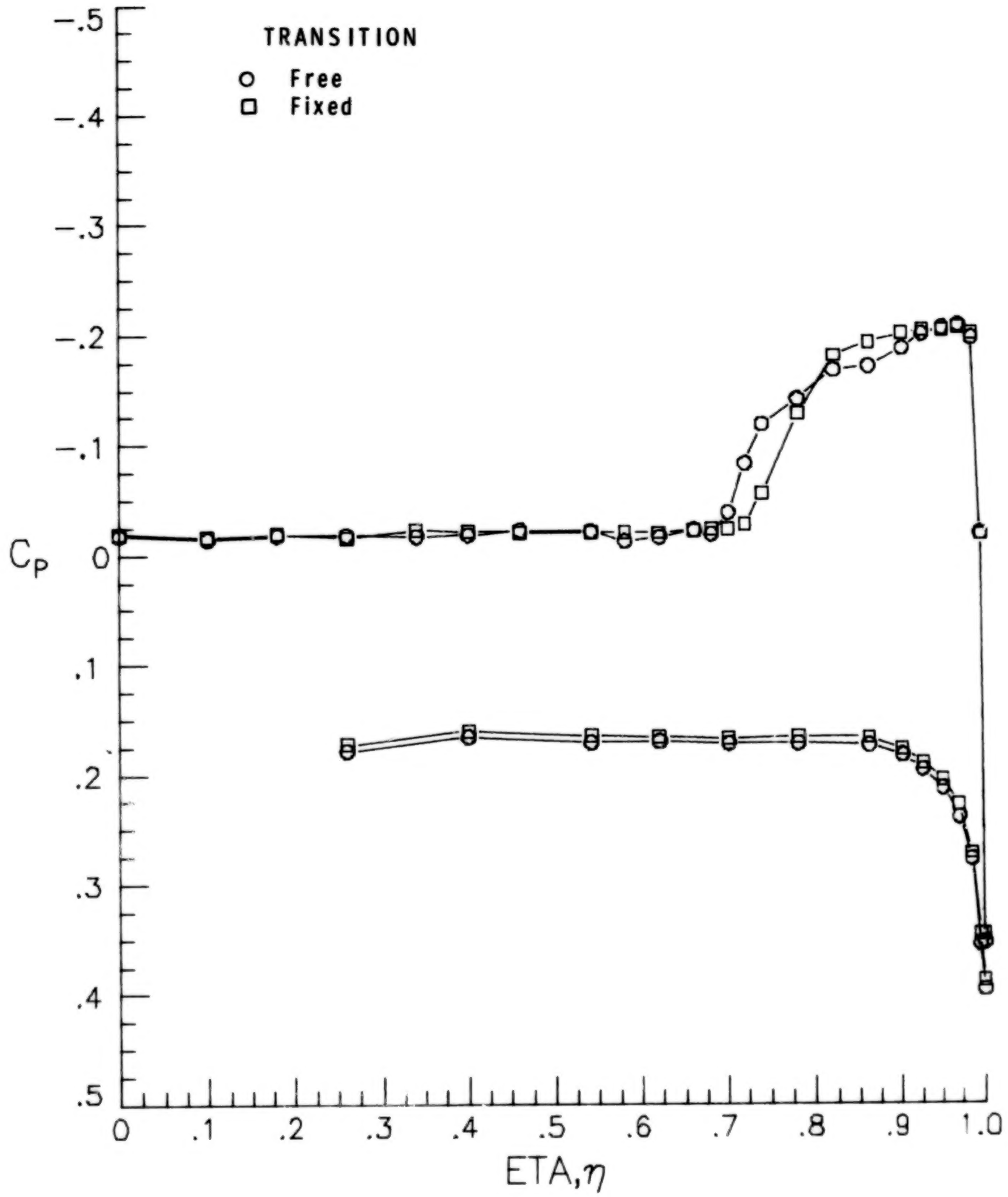
(a) M = 1.60.

Figure 18.- Effect of transition on flat-wing spanwise pressure distributions at $x/\ell = 0.55$ for $R/m = 6.6 \times 10^6$ and $\alpha \approx 4^\circ$.



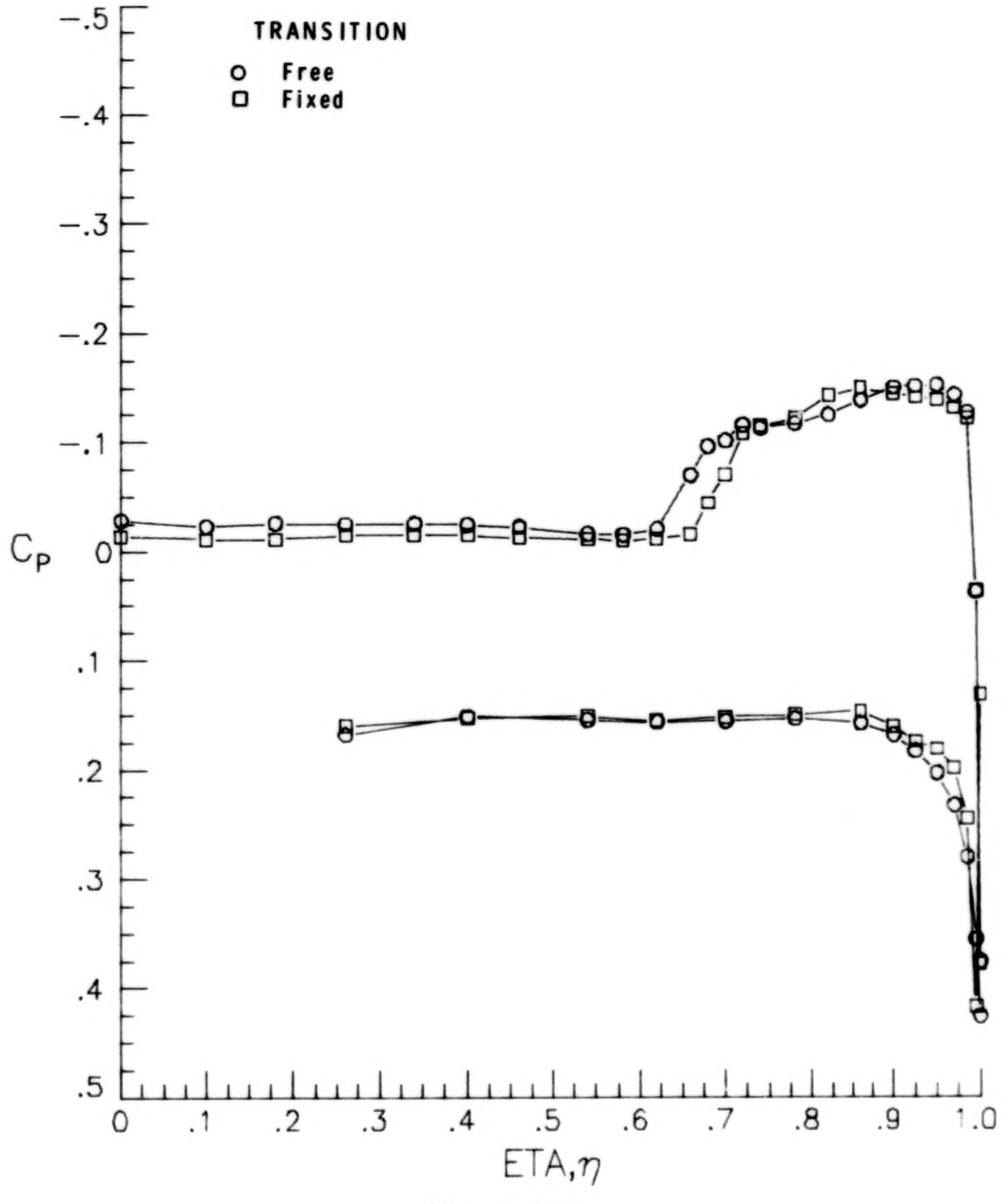
(b) M = 1.62.

Figure 18.- Continued.



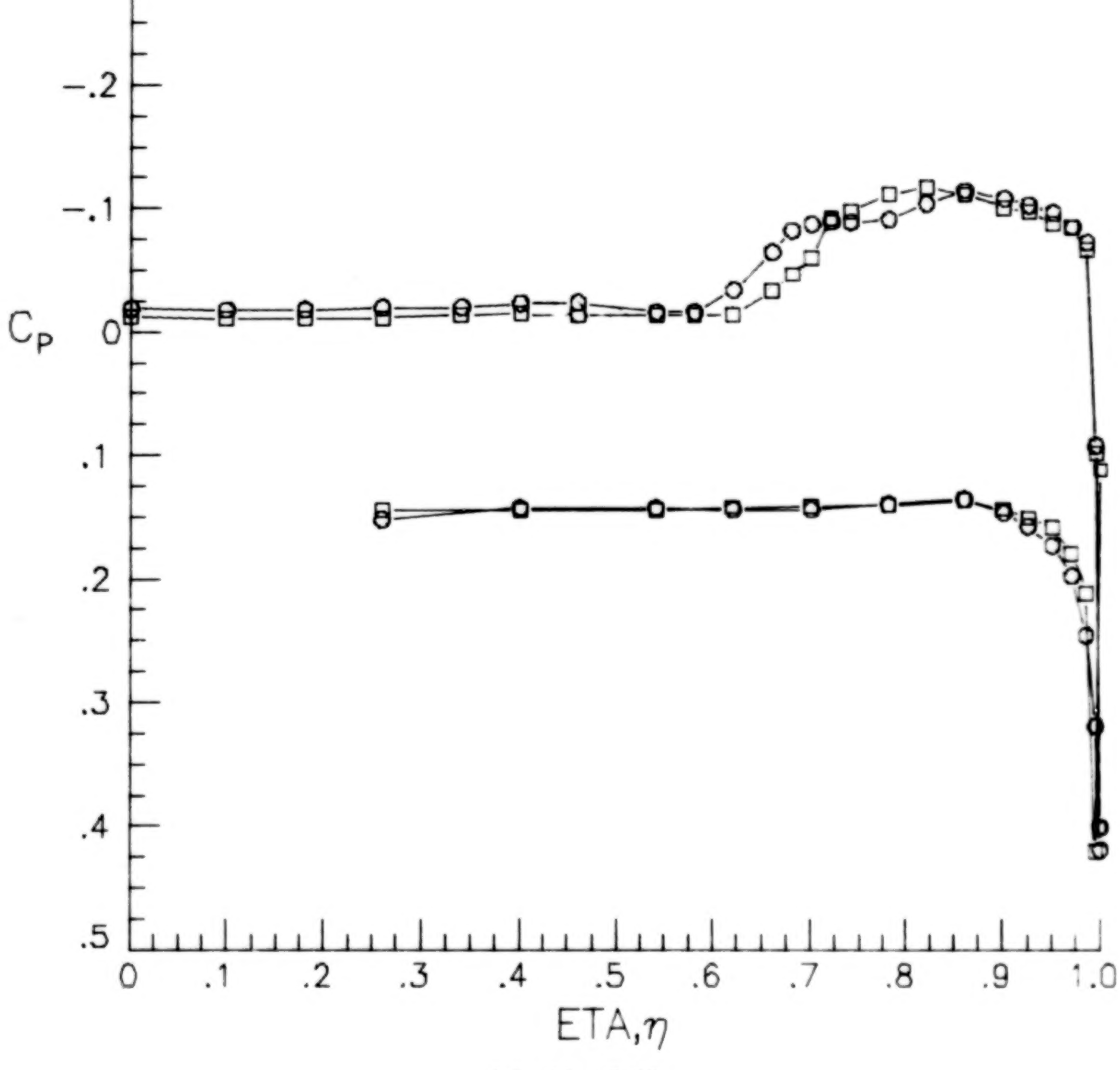
(c) M = 1.70.

Figure 18.- Continued.



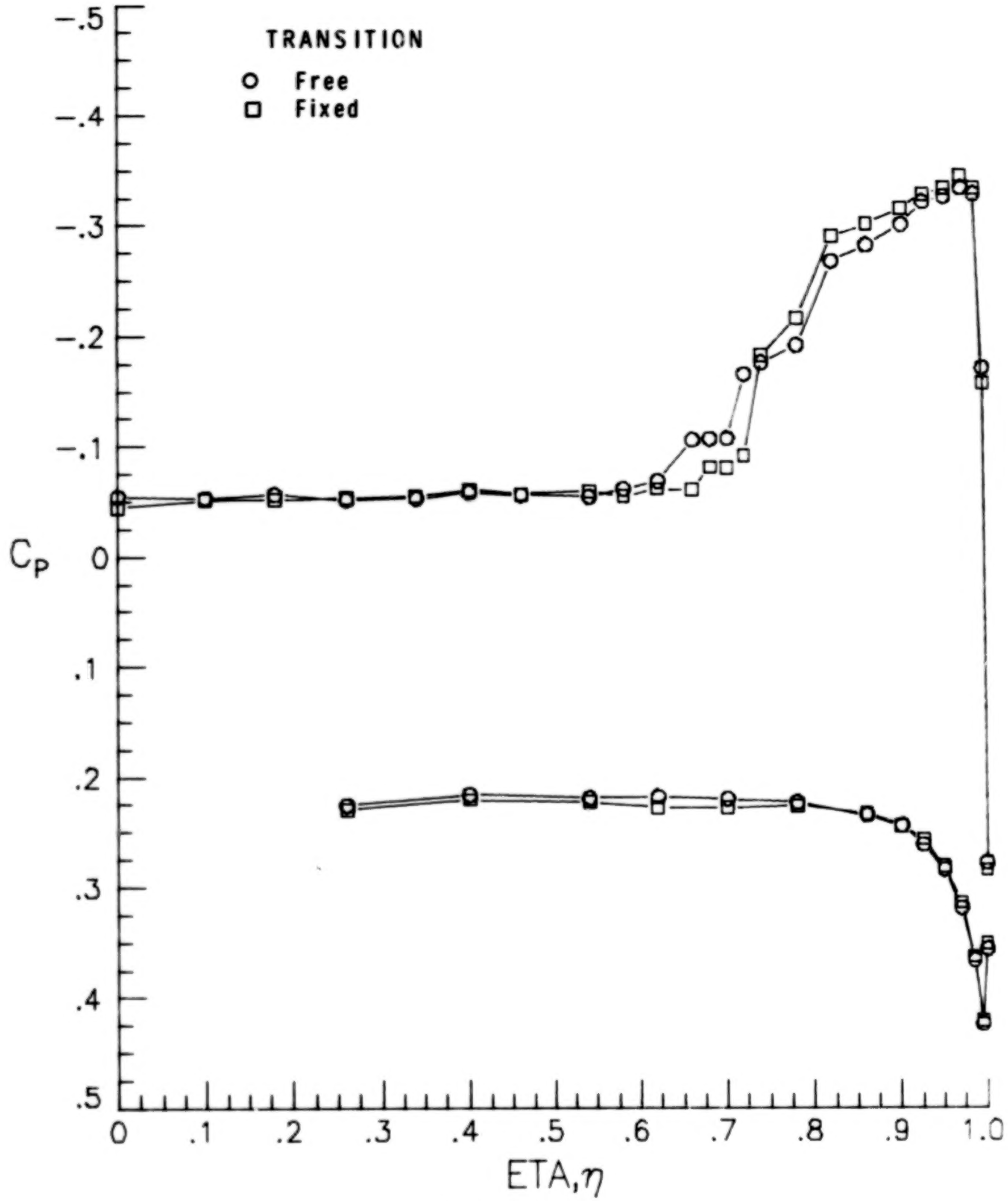
(d) M = 1.86.

Figure 18. - Continued.



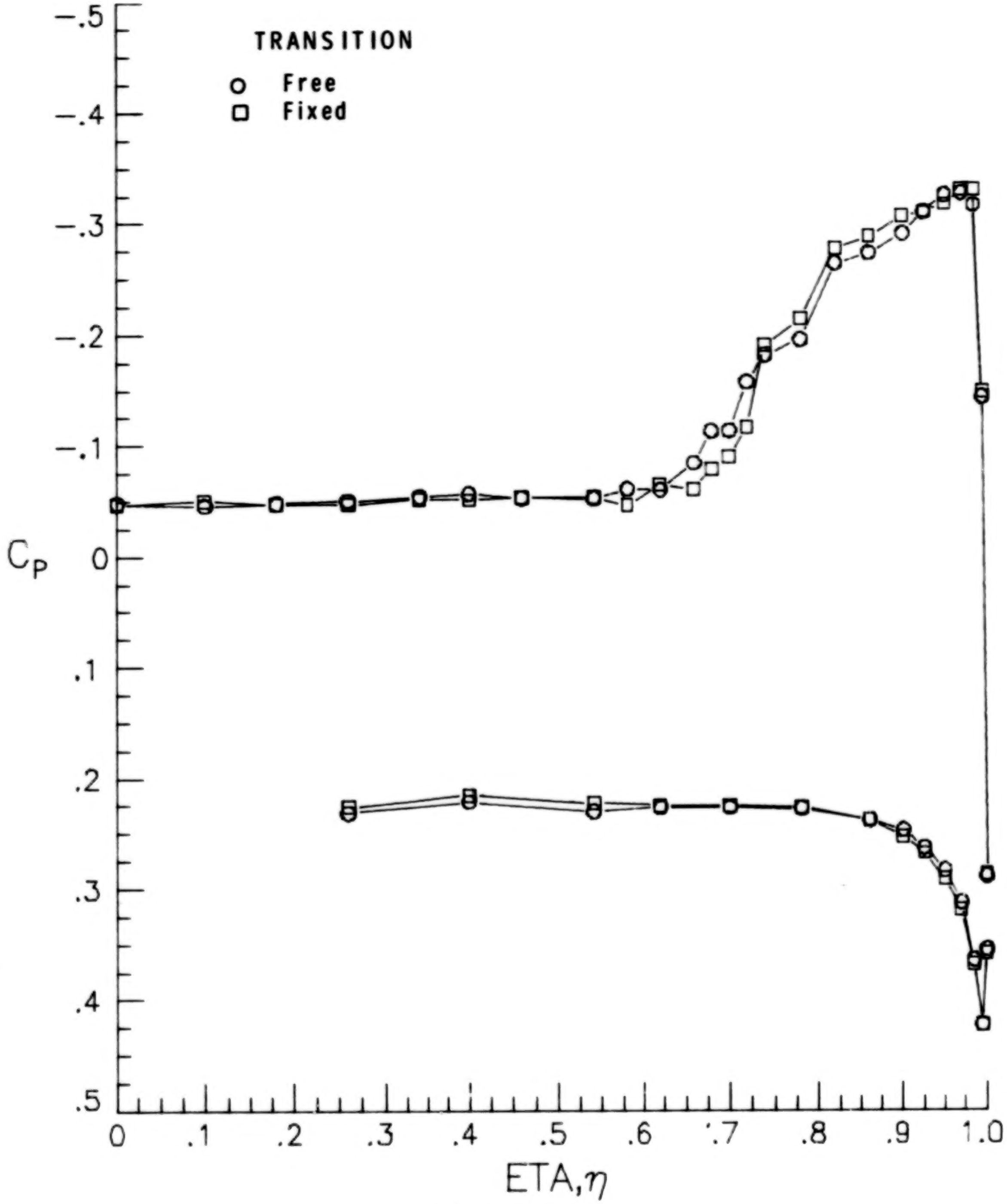
(e) M = 2.00.

Figure 18.- Concluded.



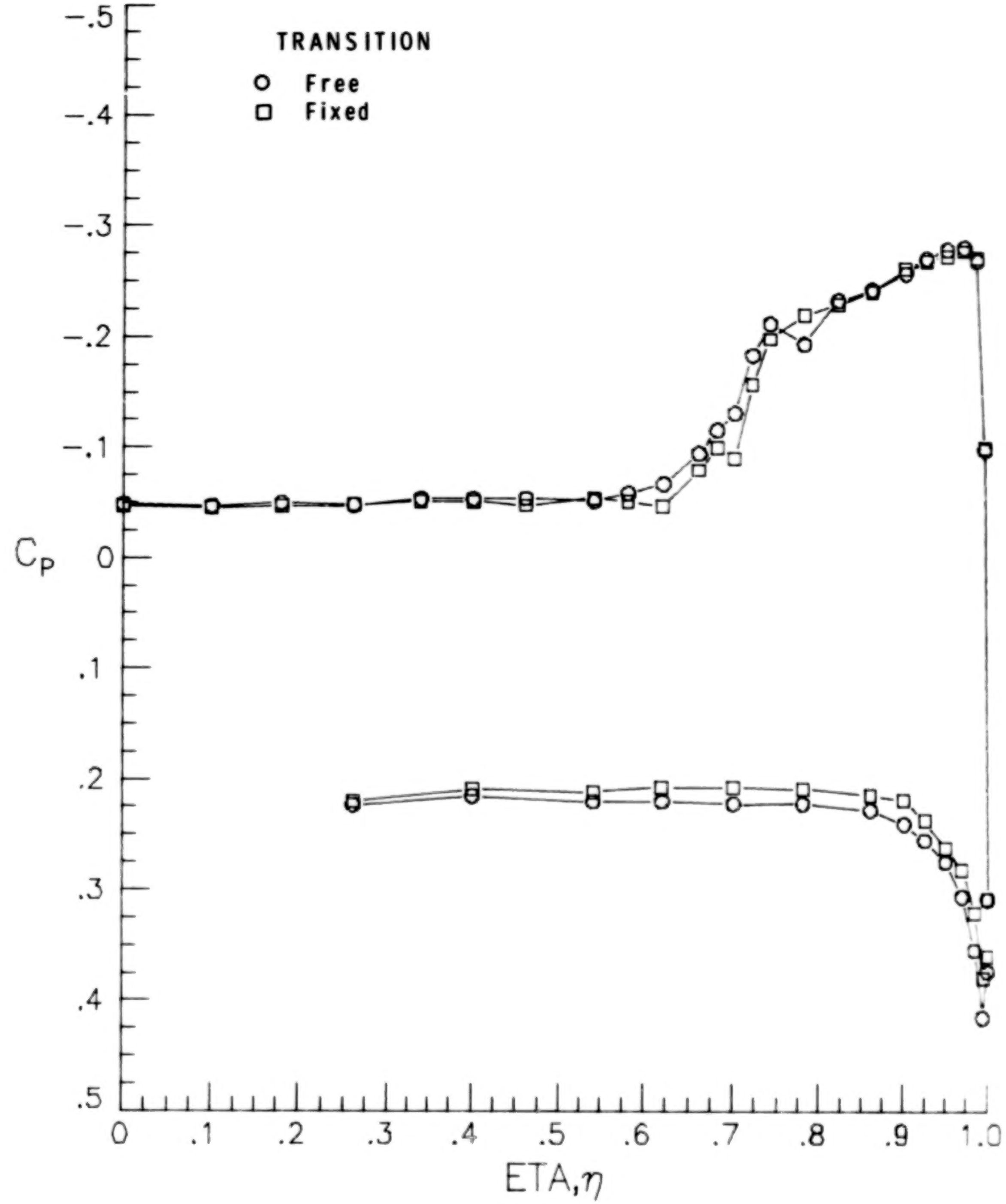
(a) M = 1.60.

Figure 19. - Effect of transition on flat-wing spanwise pressure distributions at $x/\ell = 0.55$ for $R/m = 6.6 \times 10^6$ and $\alpha \approx 6^\circ$.



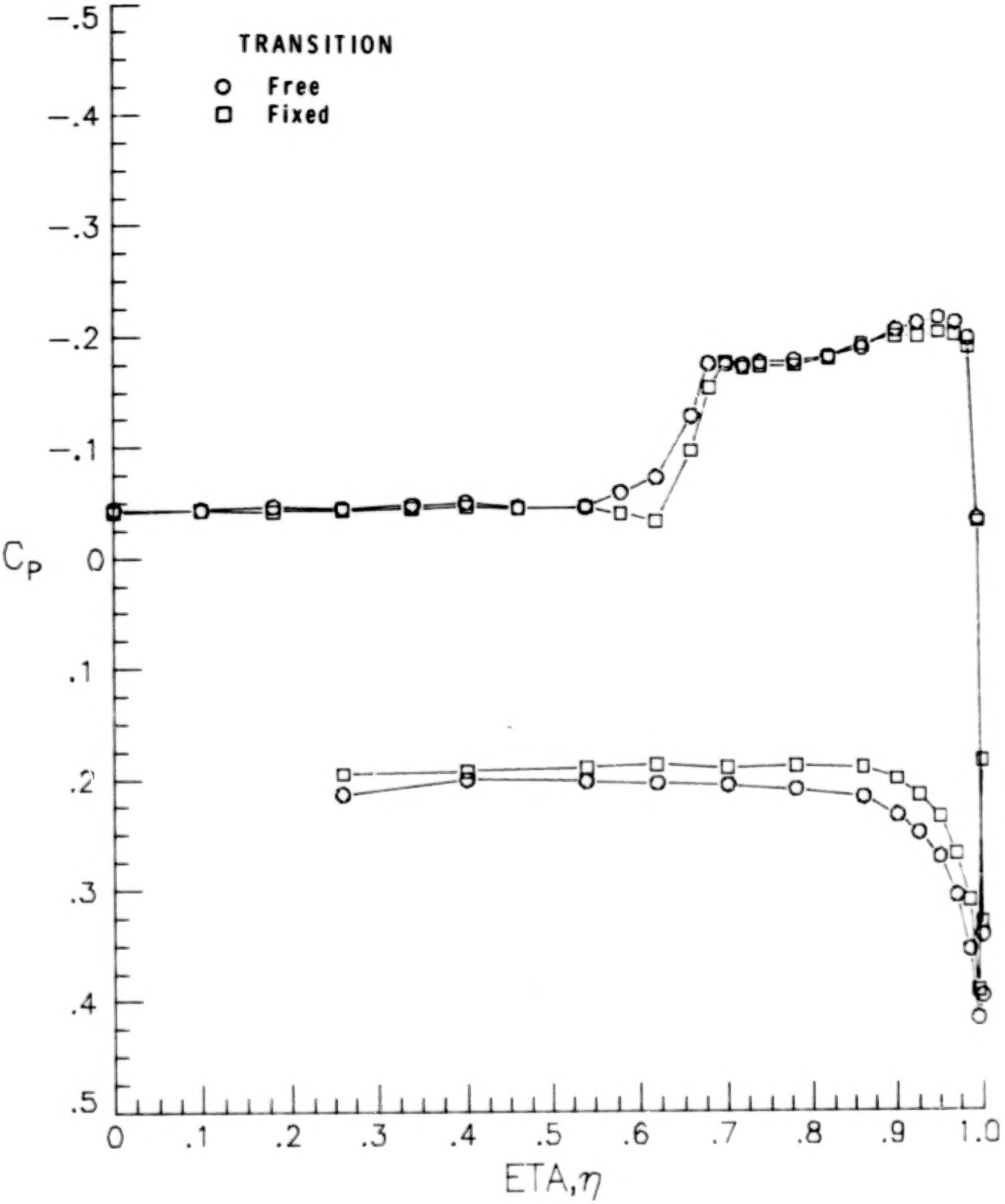
(b) M = 1.62.

Figure 19.- Continued.



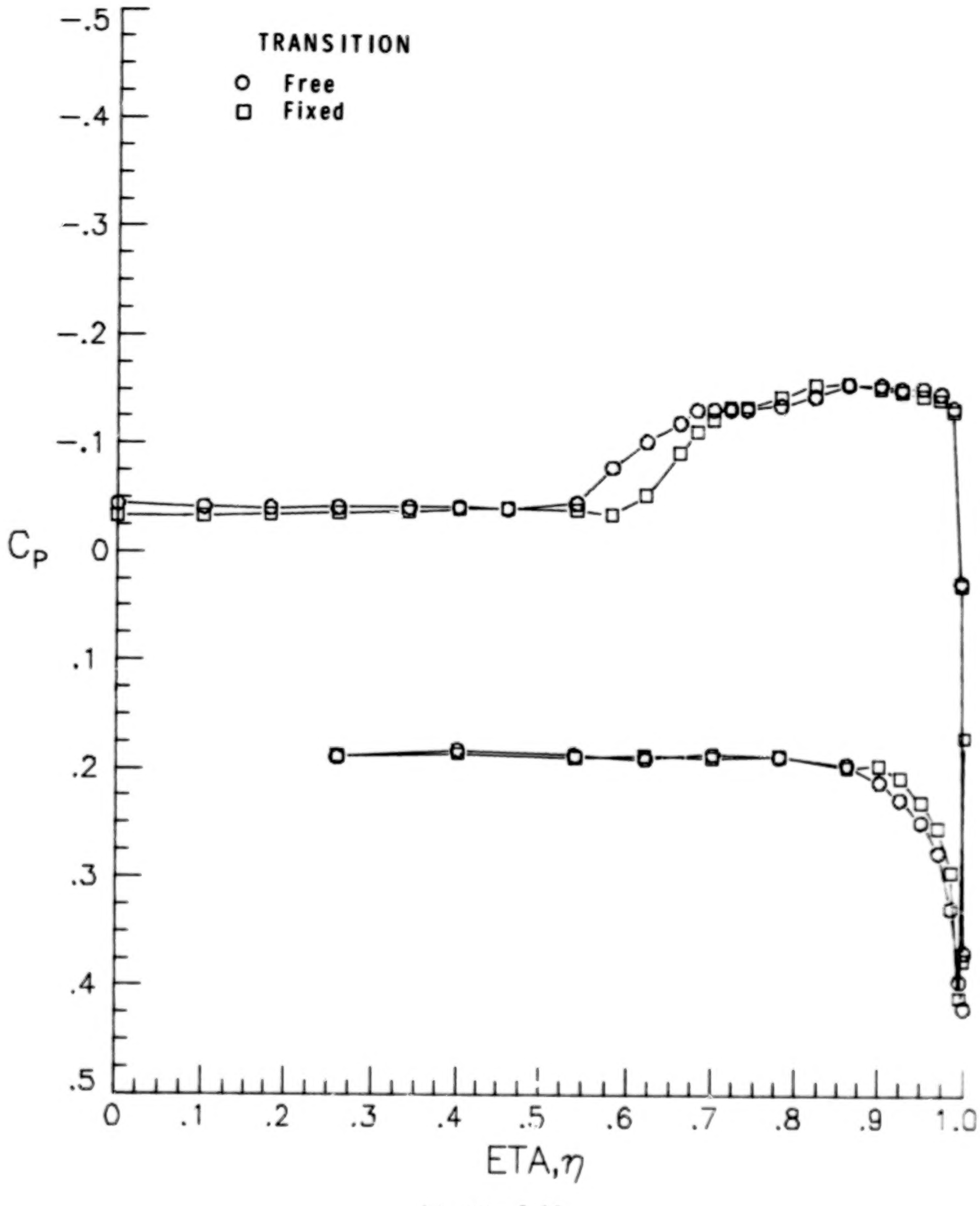
(c) M = 1.70.

Figure 19.- Continued.



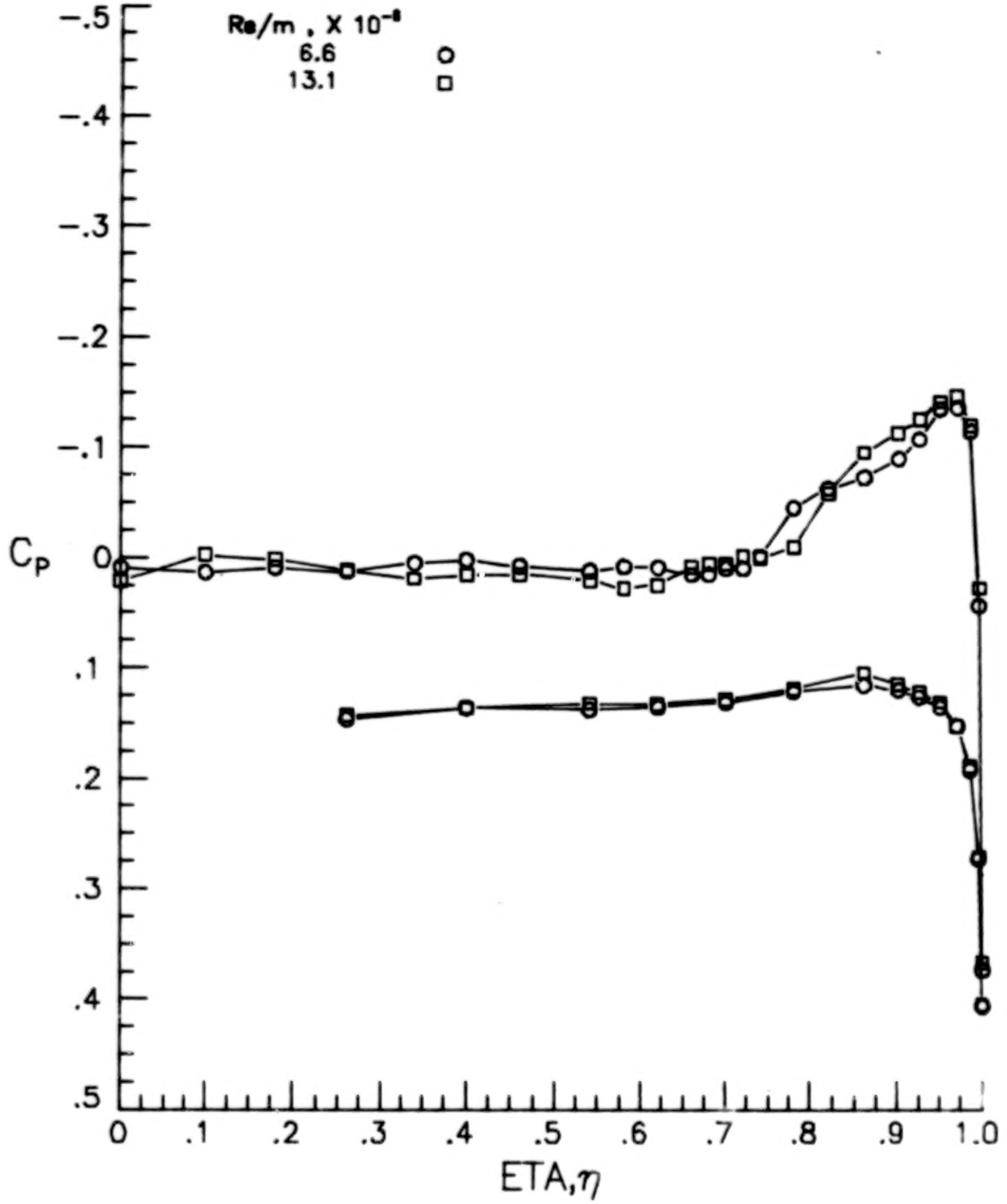
(d) M = 1.86.

Figure 19.- Continued.



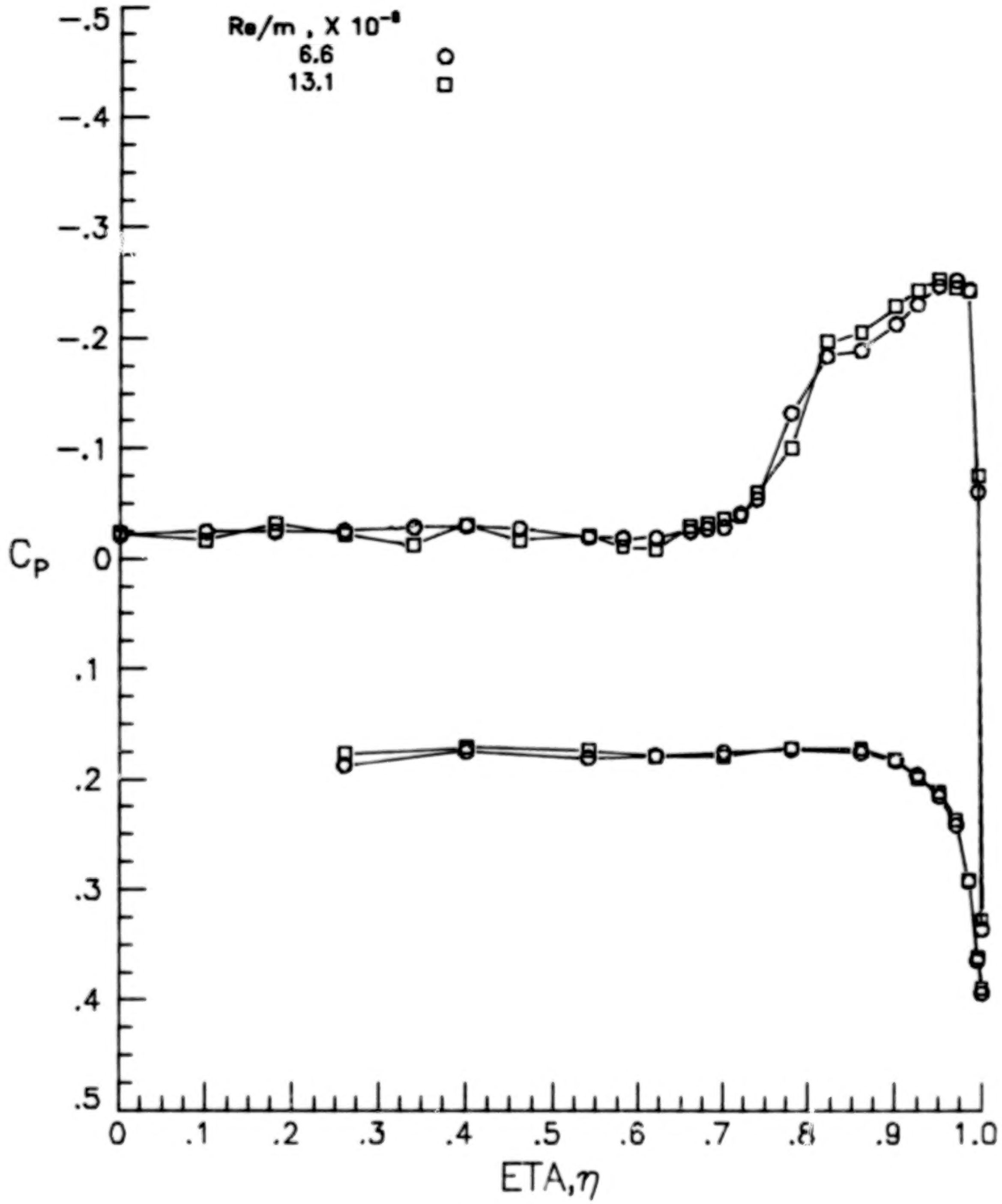
(e) M = 2.00.

Figure 19.- Concluded.



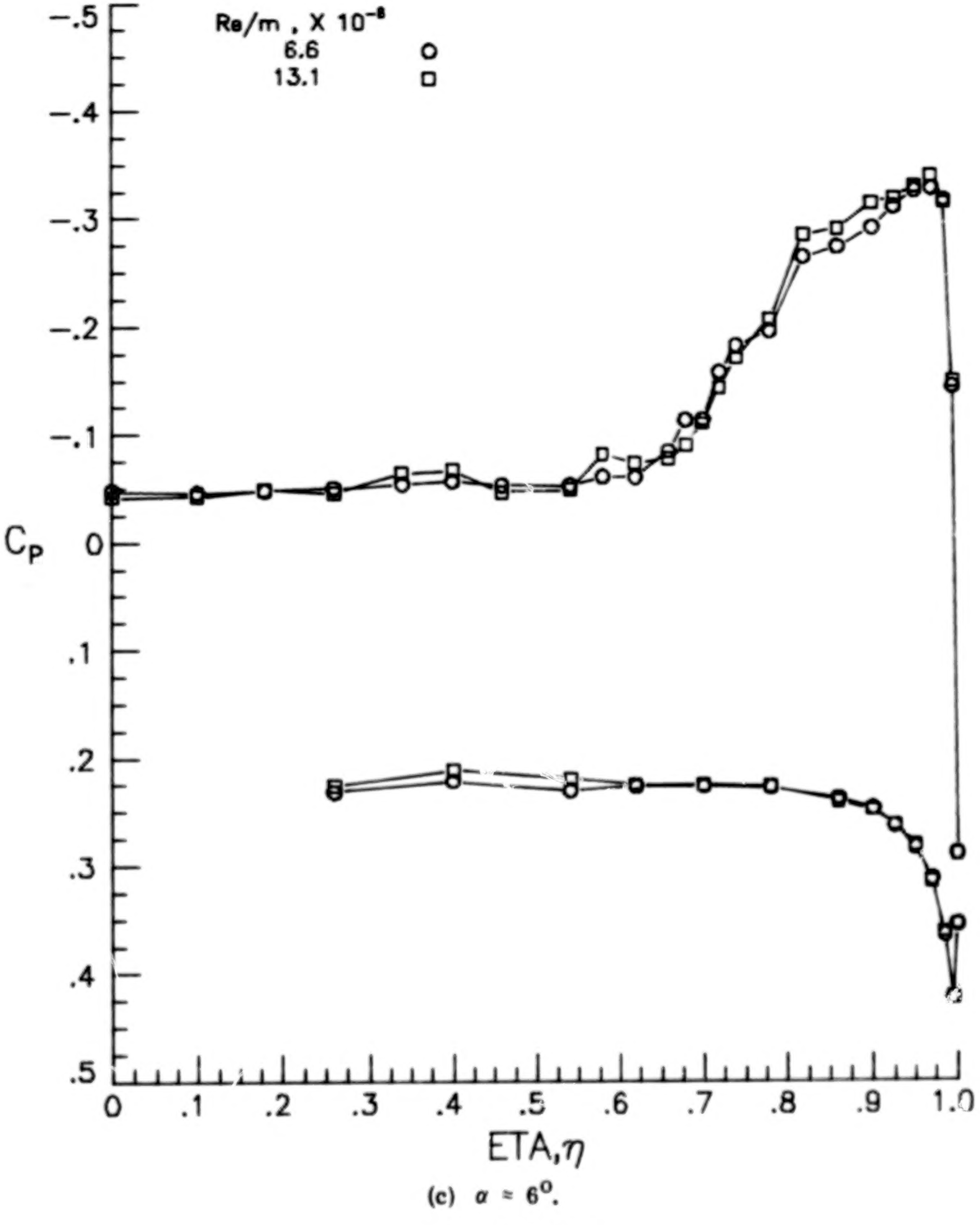
(a) $\alpha \approx 2^{\circ}$.

Figure 20.- Effect of Reynolds number on flat-wing spanwise pressure distributions with free transition at $x/\ell = 0.55$ and $M = 1.62$.



(b) $\alpha \approx 4^{\circ}$.

Figure 20. - Continued.



(c) $\alpha \approx 6^{\circ}$.

Figure 20.- Concluded.

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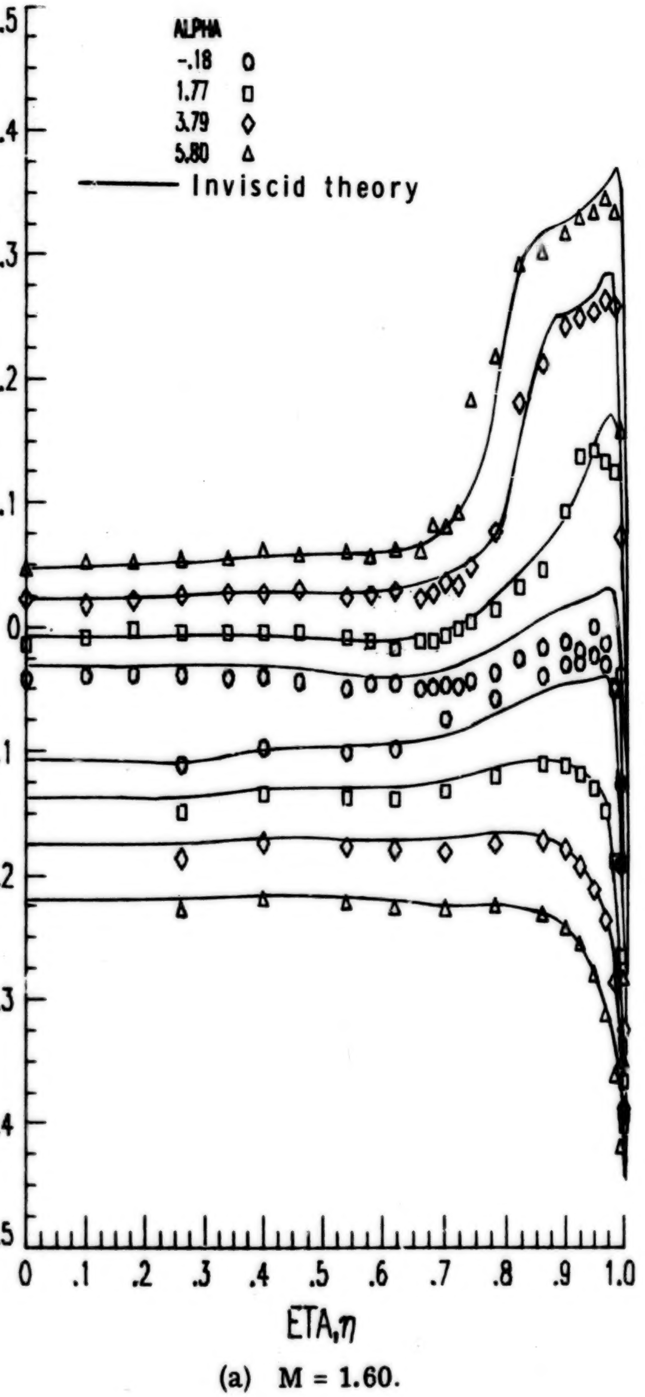
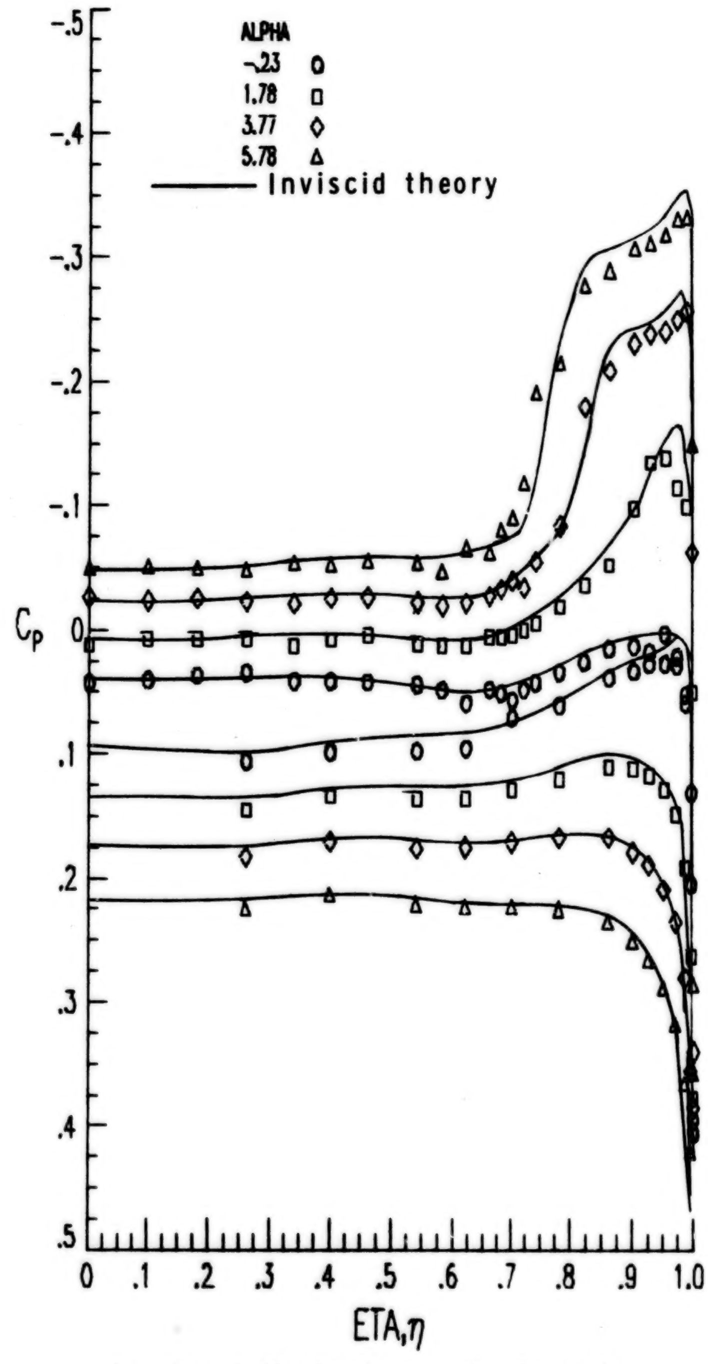


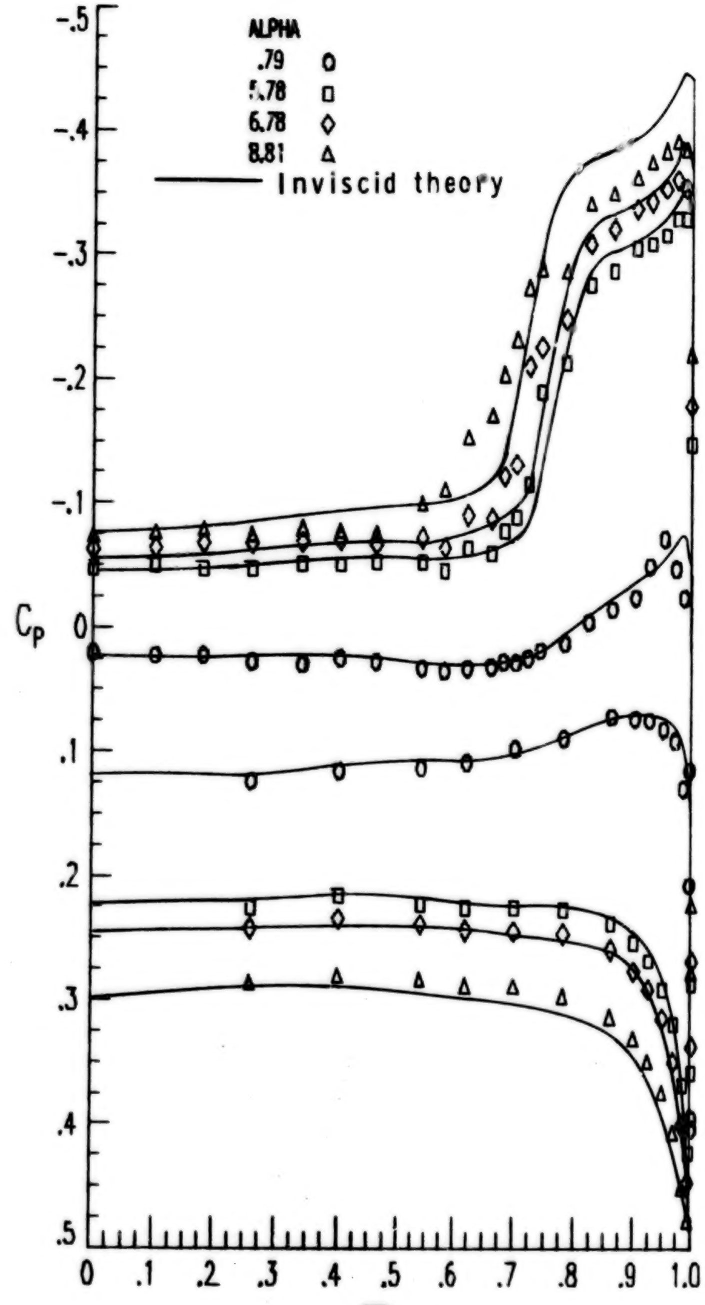
(a) M = 1.60.

Figure 21.- Typical agreement between theory and experimental results for flat wing with fixed transition at $x/\ell = 0.55$.



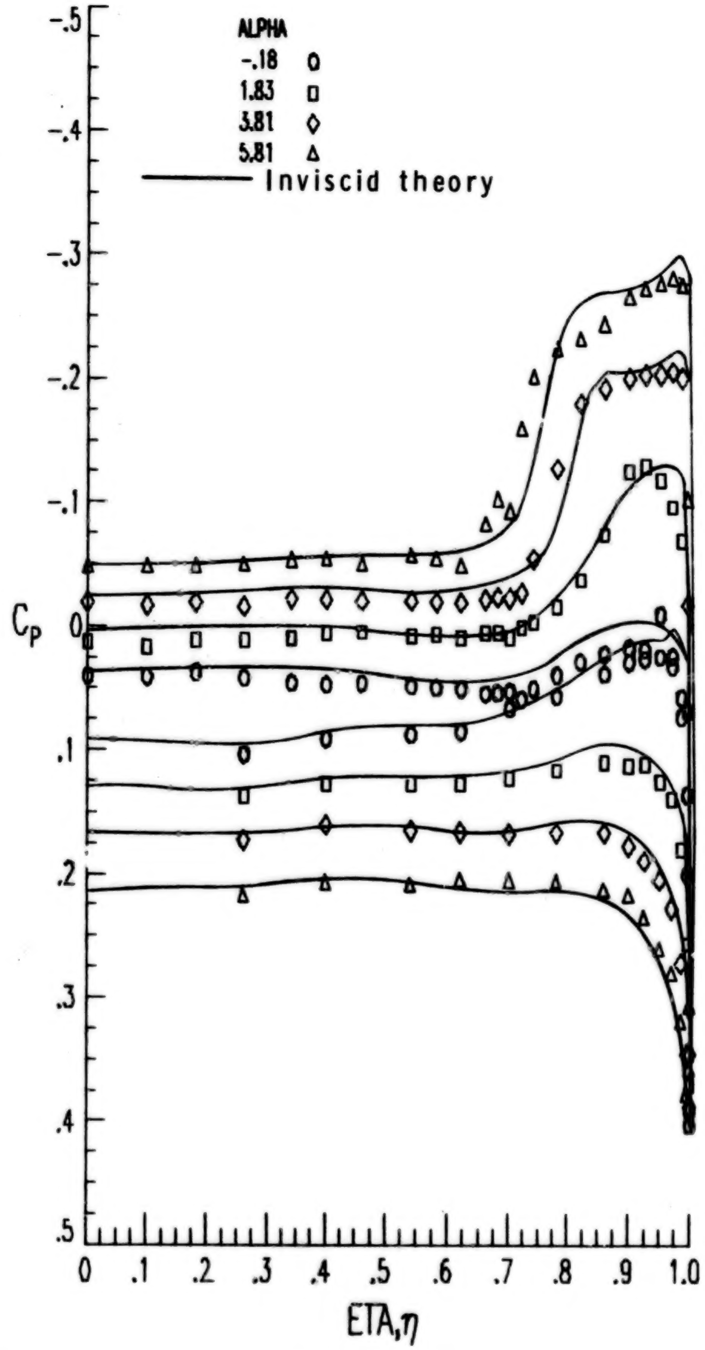
(b) M = 1.62 for low angle of attack.

Figure 21. - Continued.



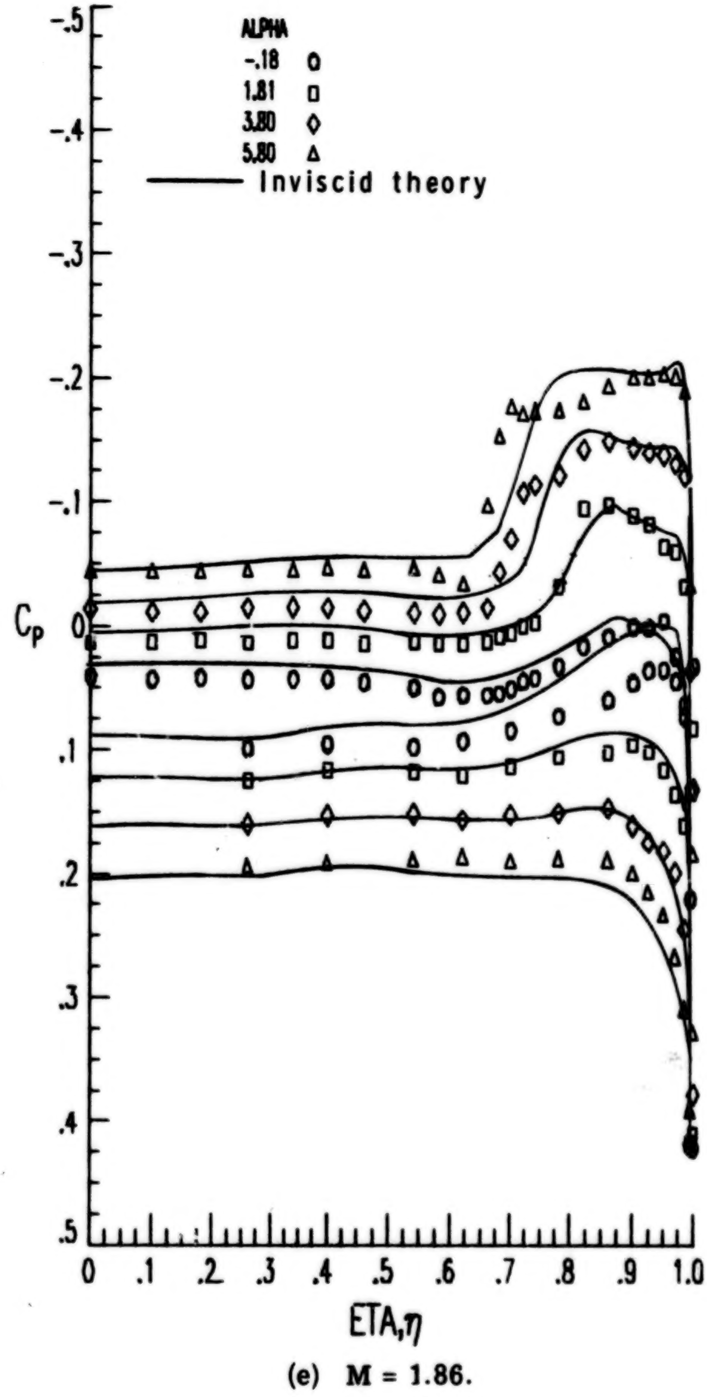
(c) M = 1.62 for high angle of attack.

Figure 21.- Continued.



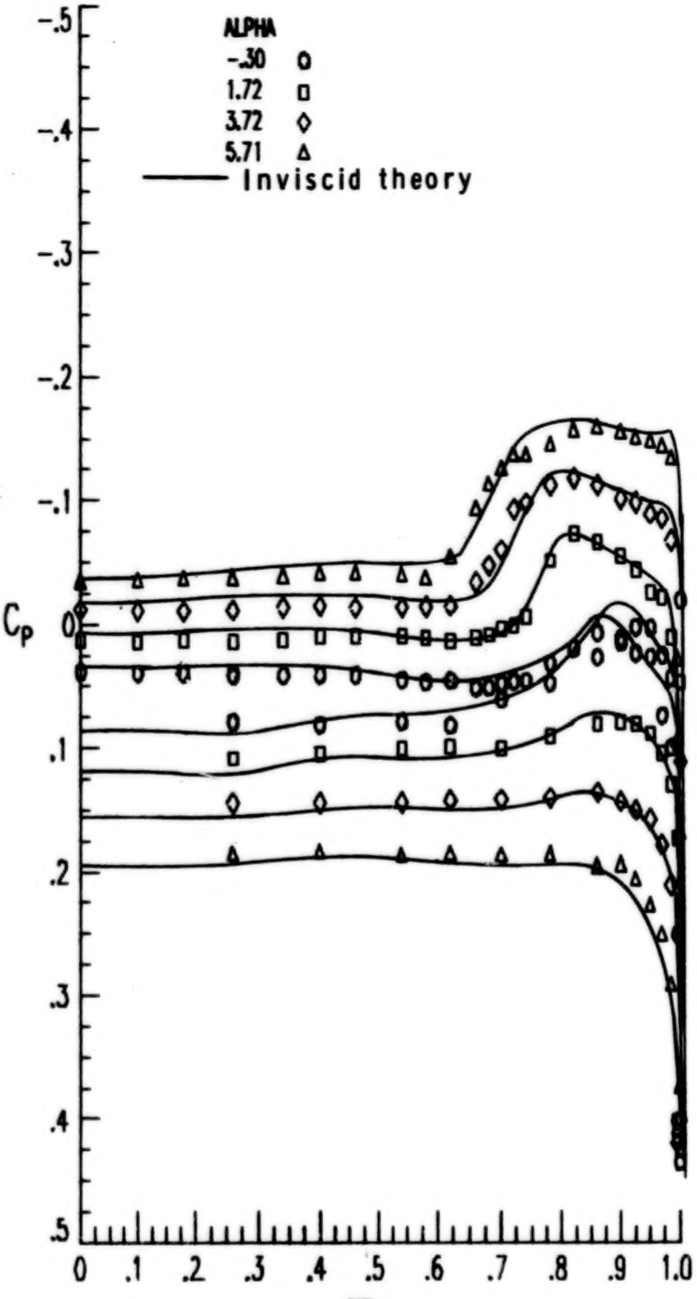
(d) M = 1.70.

Figure 21. - Continued.



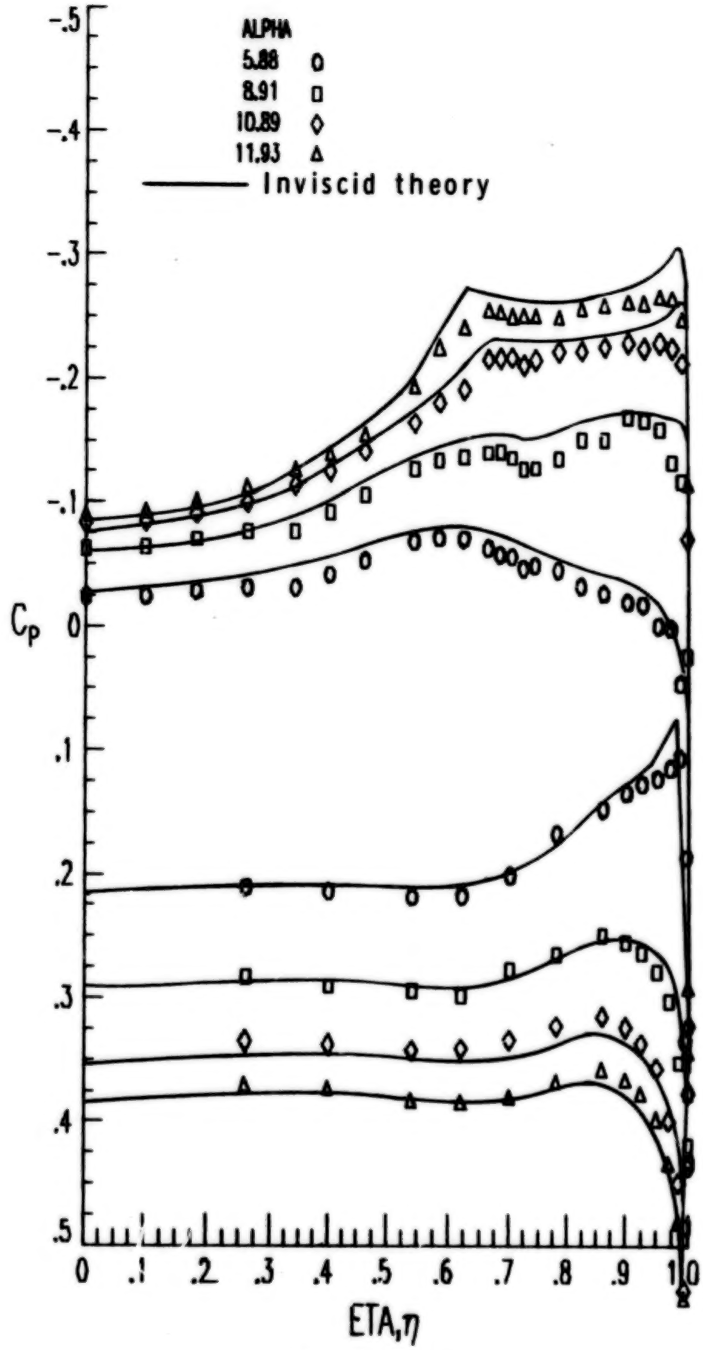
(e) M = 1.86.

Figure 21.- Continued.



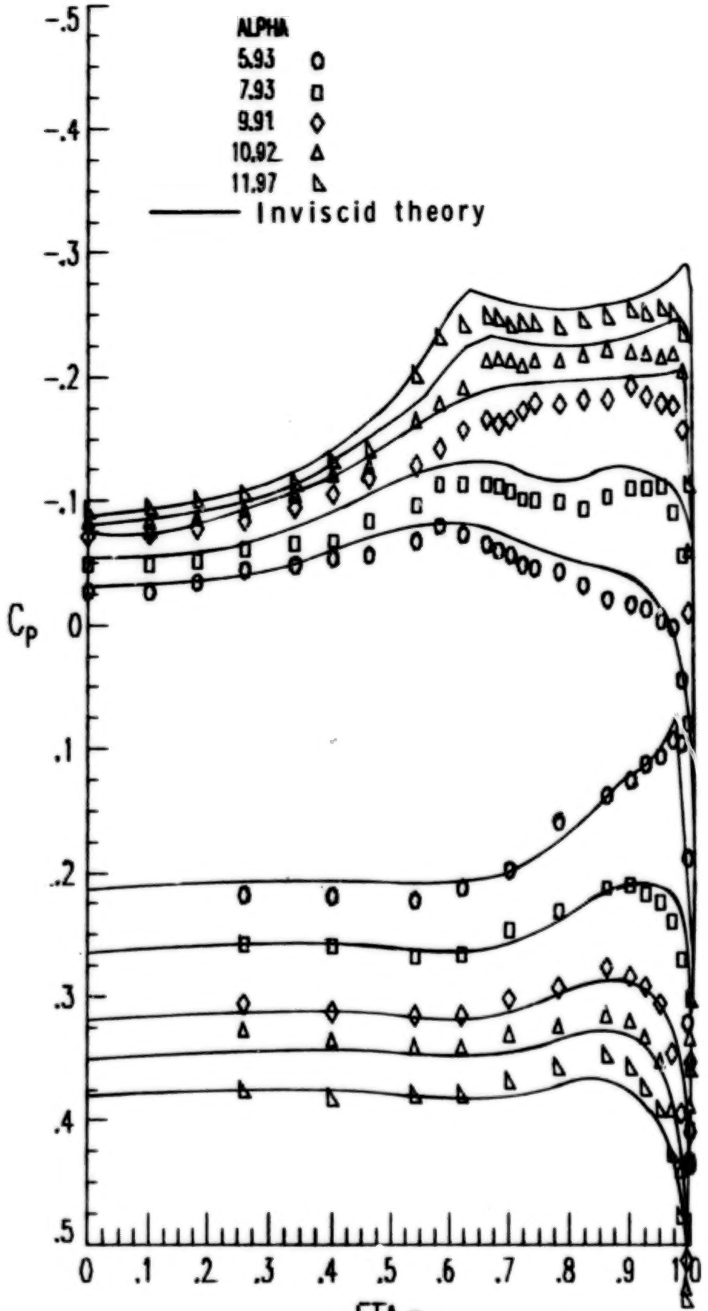
(f) M = 2.00.

Figure 21.- Concluded.



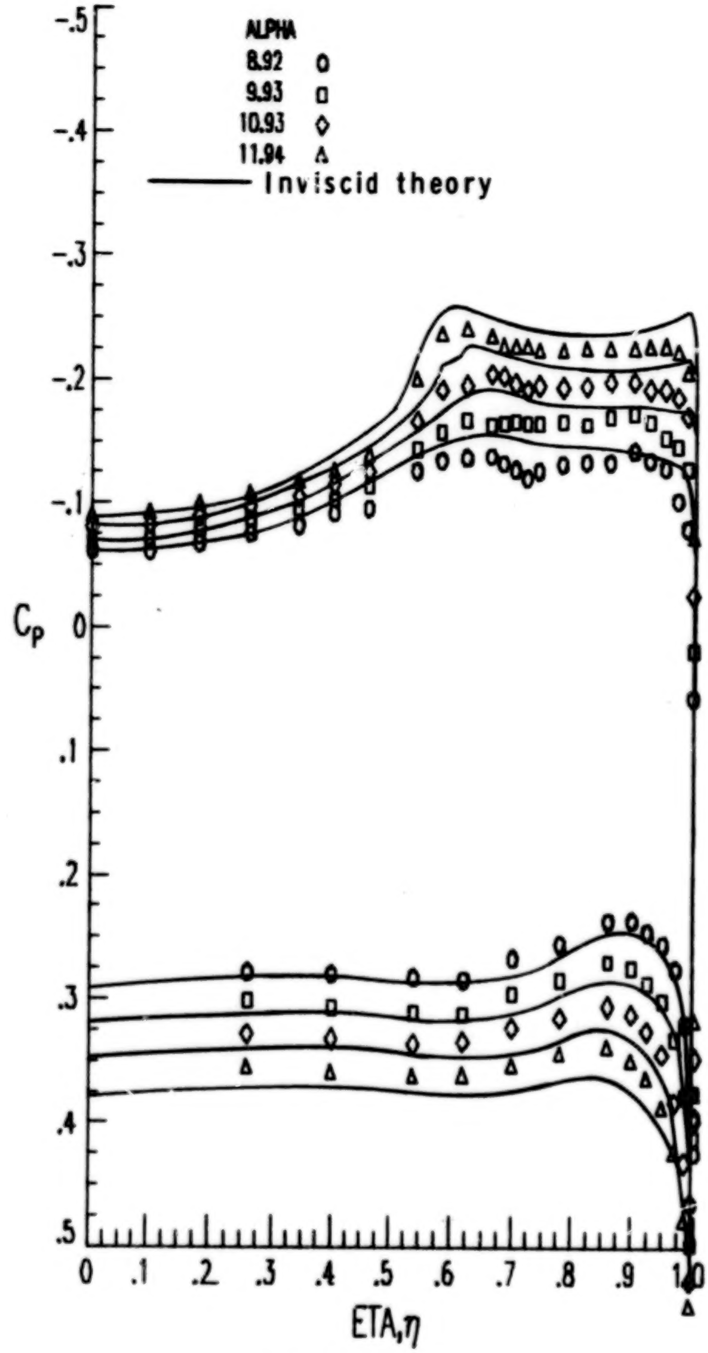
(a) M = 1.60.

Figure 22.- Typical agreement between theory and experimental results for cambered wing with fixed transition at $x/\ell = 0.55$.



(b) M = 1.62.

Figure 22.- Continued.



(c) M = 1.66.

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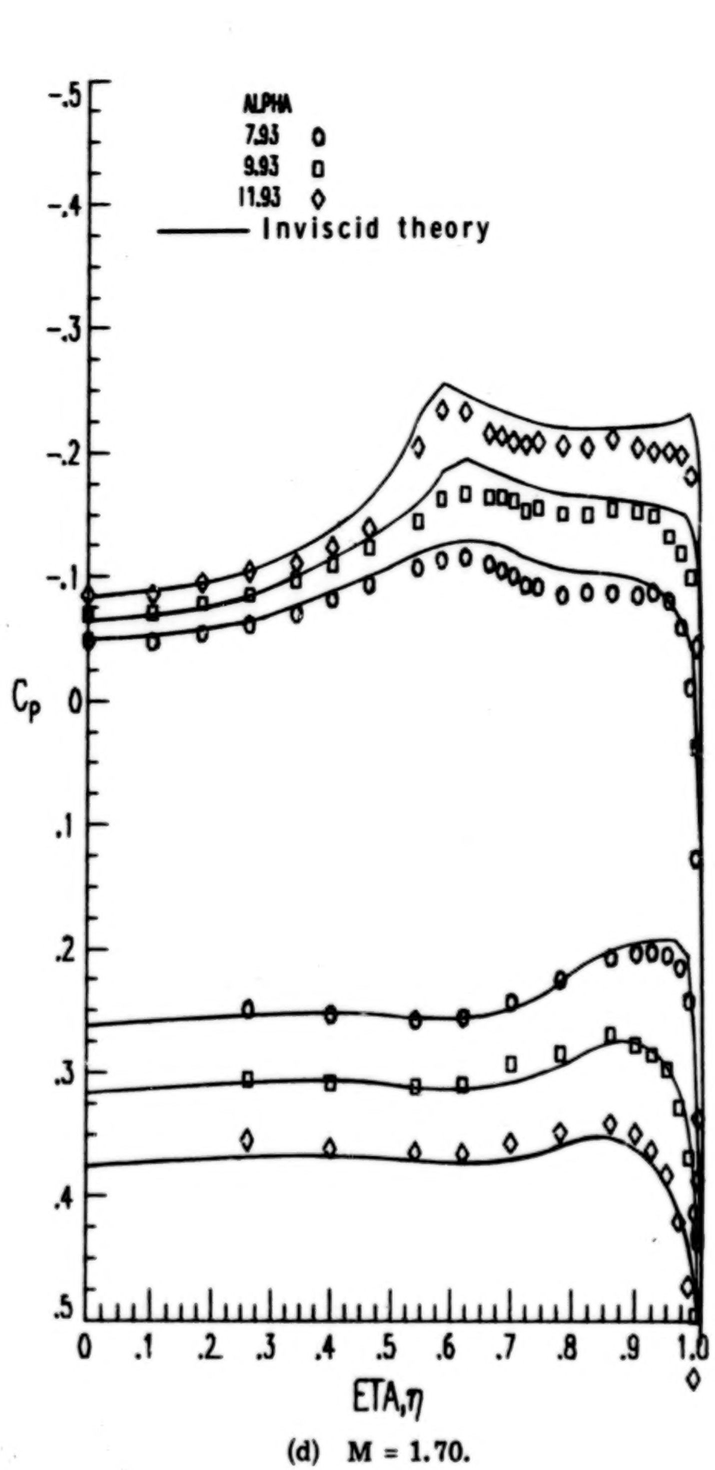

(d) M = 1.70.

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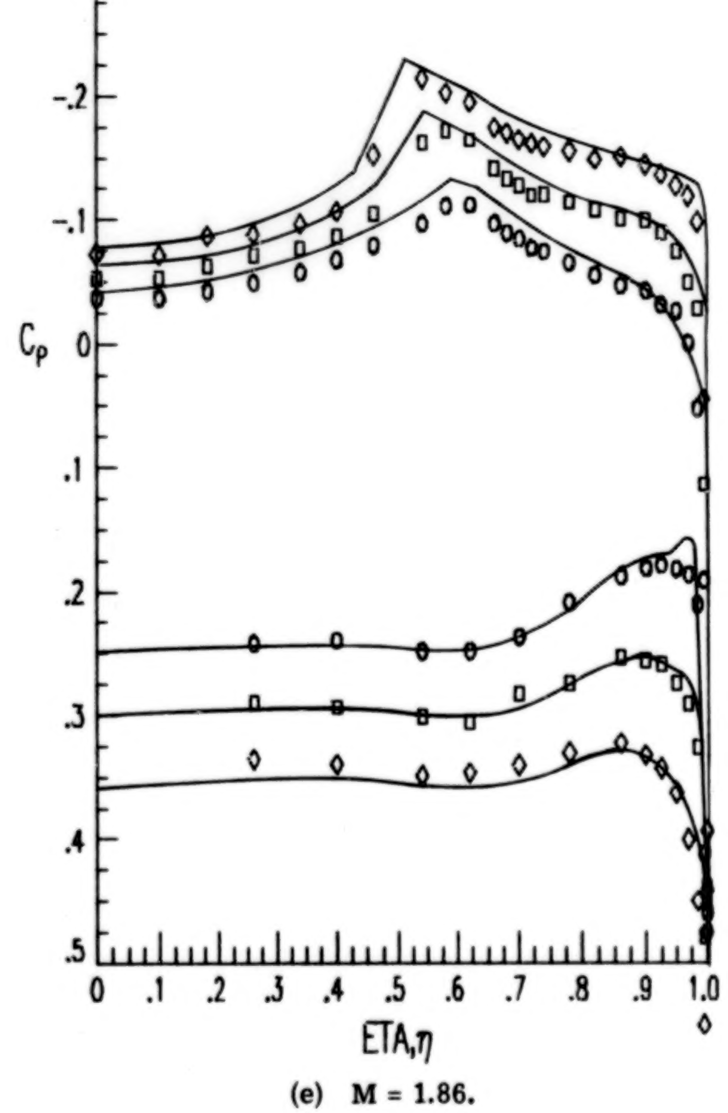
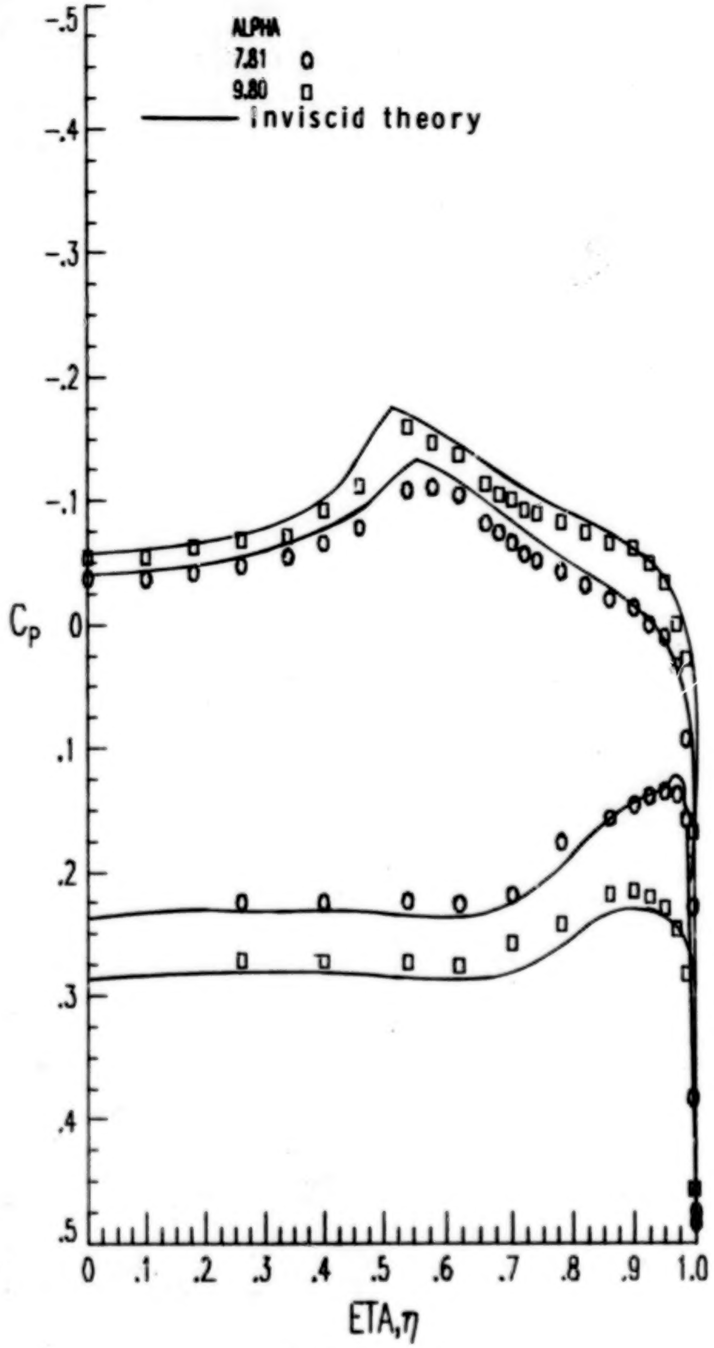


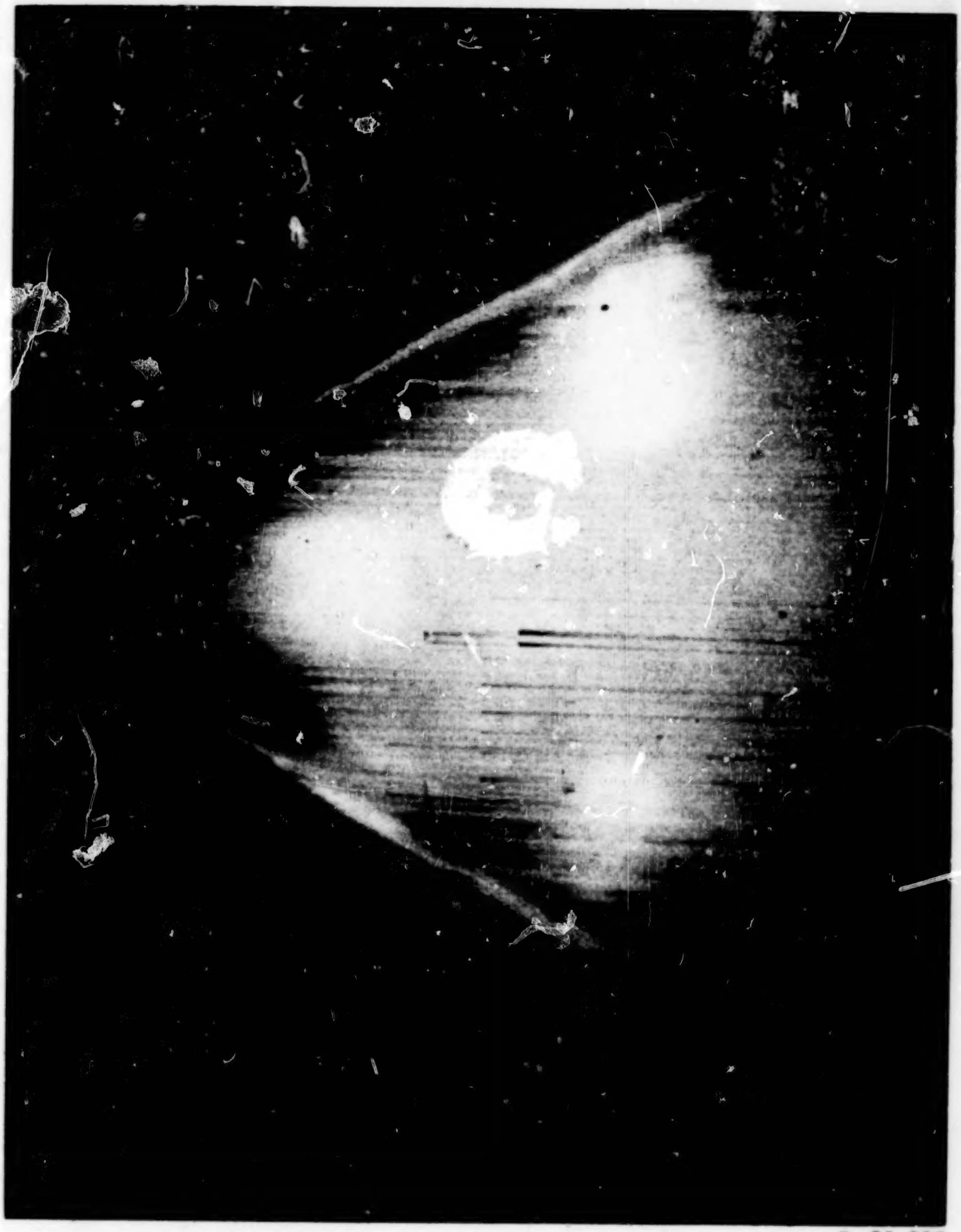
(e) M = 1.86.

Figure 22. - Continued.



(f) M = 2.00.

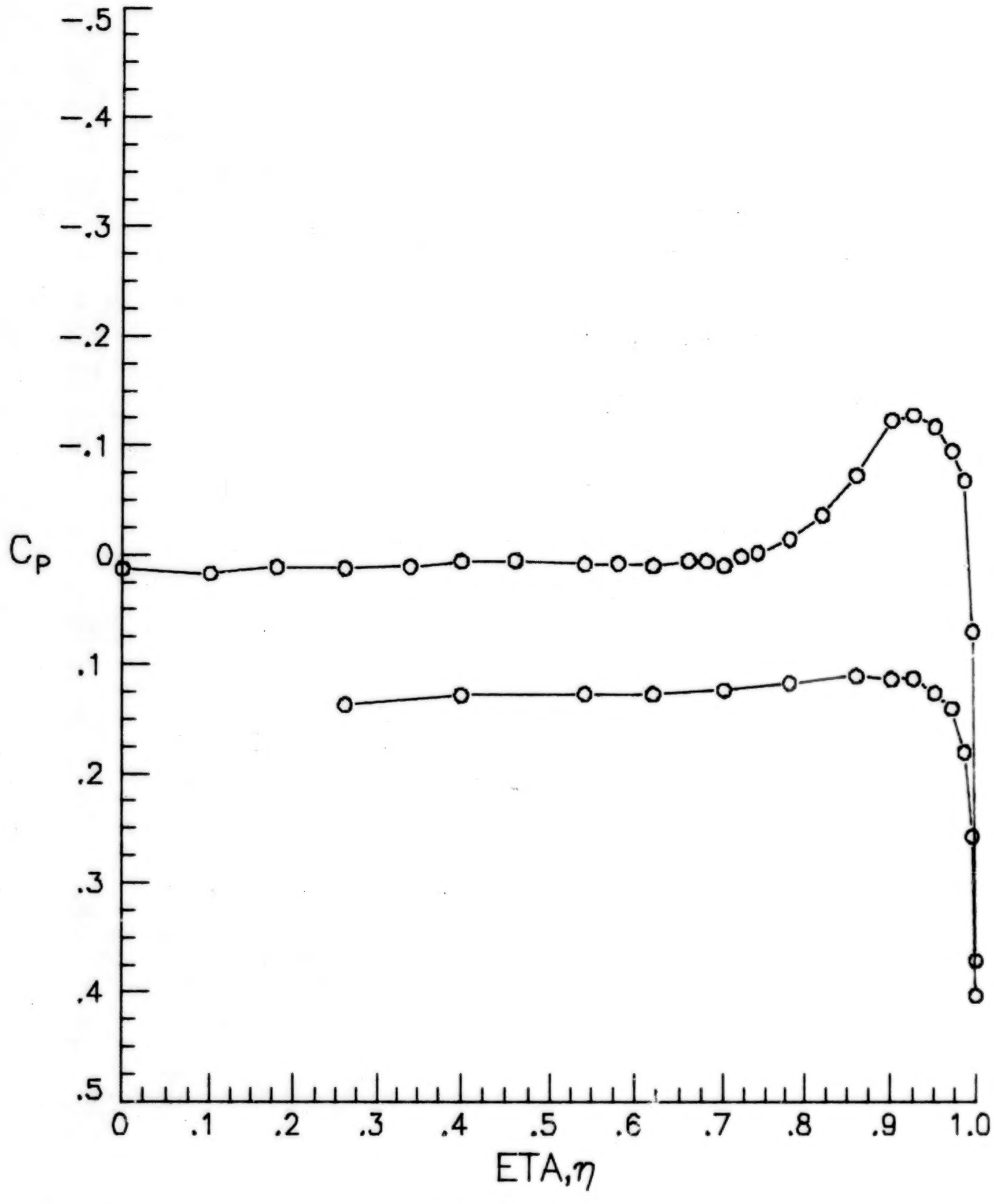
Figure 22. - Concluded.



L-80-205

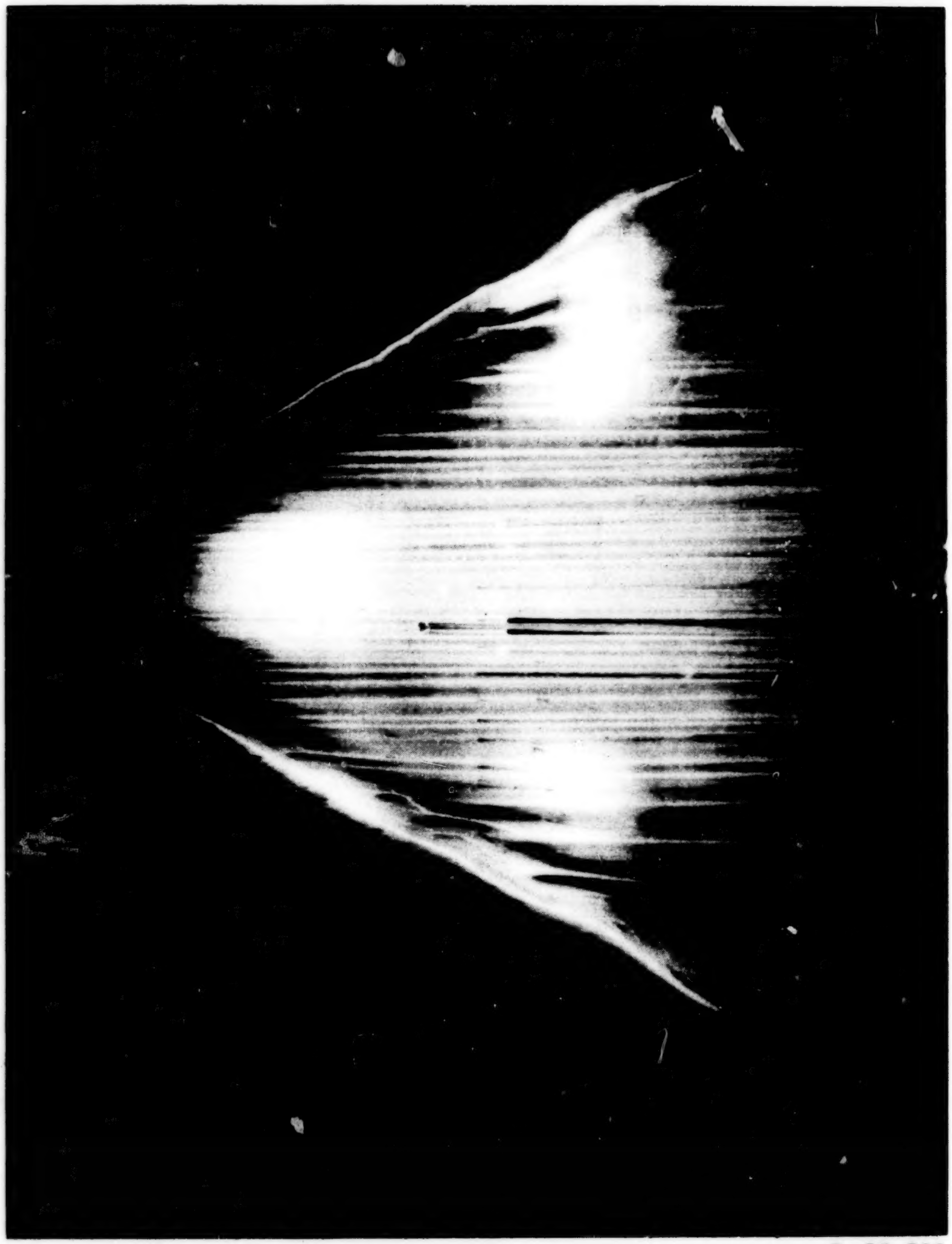
(a) Oil flow photograph and pressure distribution at $x/\ell = 0.550$. $\alpha \approx 2^{\circ}$.

Figure 23. - Flow visualization of flat wing at $M = 1.70$.



(a) Concluded.

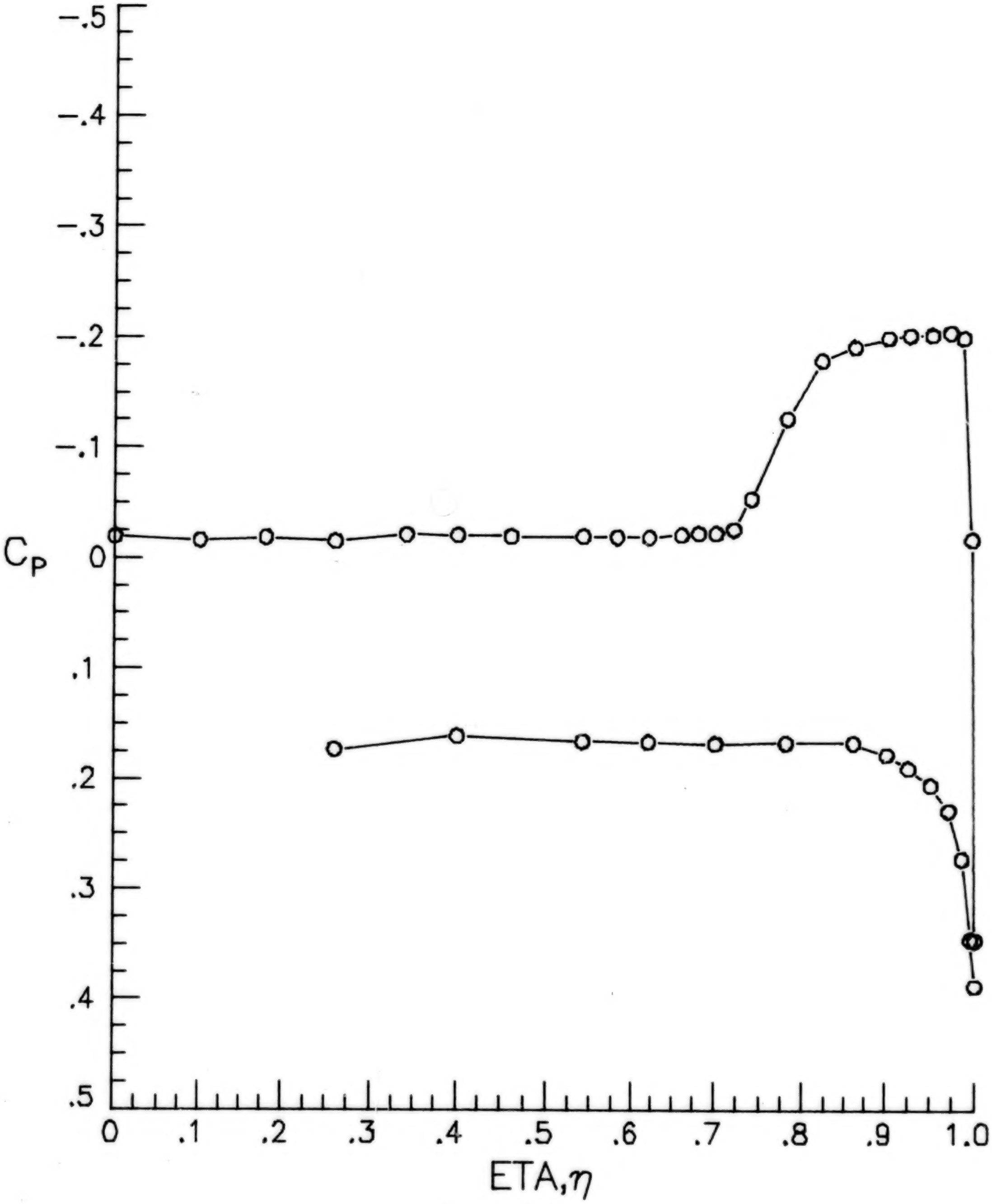
Figure 23.- Continued.



L-80-206

(b) Oil flow photograph, pressure distribution at $x/\ell = 0.550$, and oil flow sketch. $\alpha \approx 4^{\circ}$.

Figure 23.- Continued.



(b) Continued.

Figure 23.- Continued.

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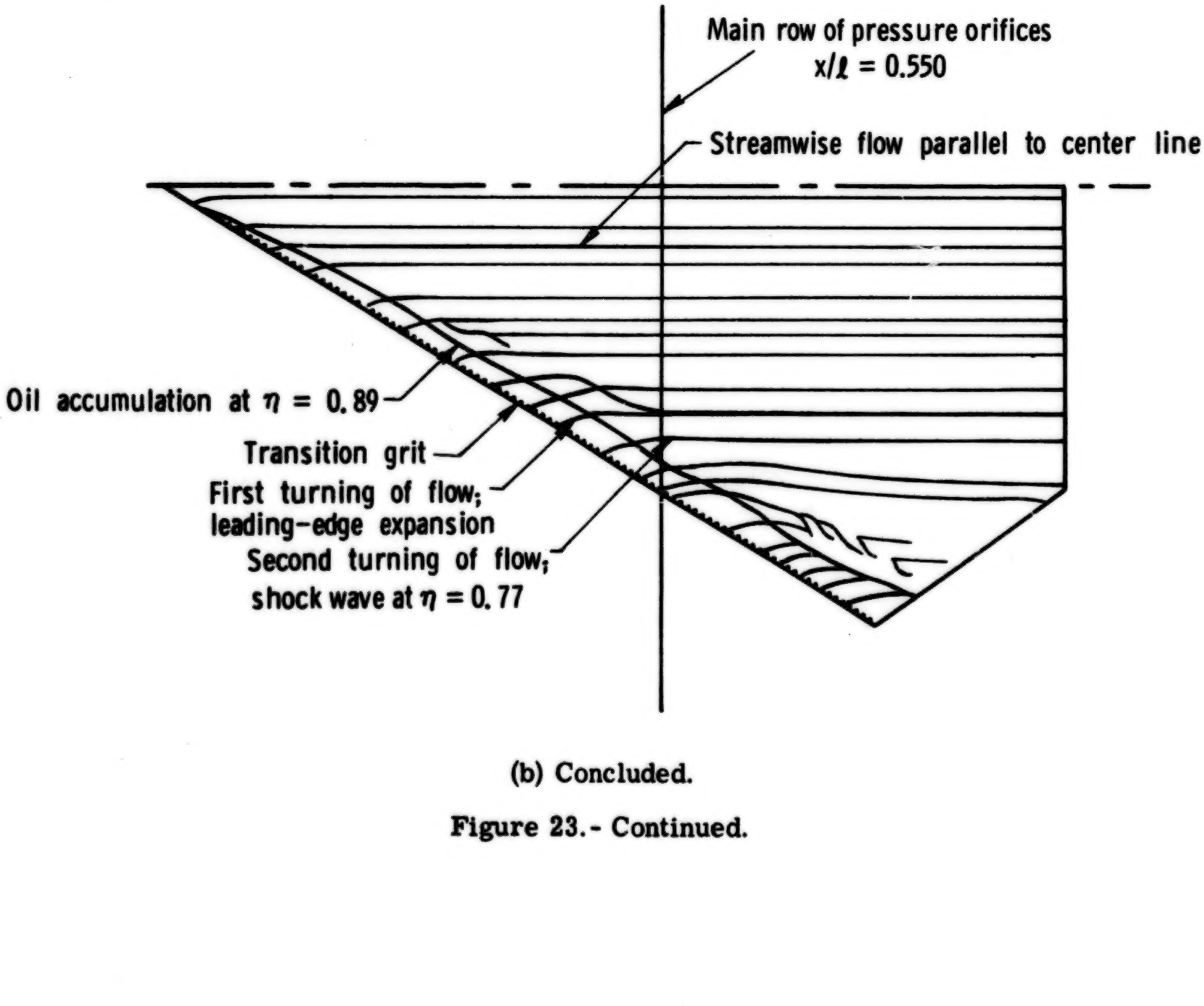
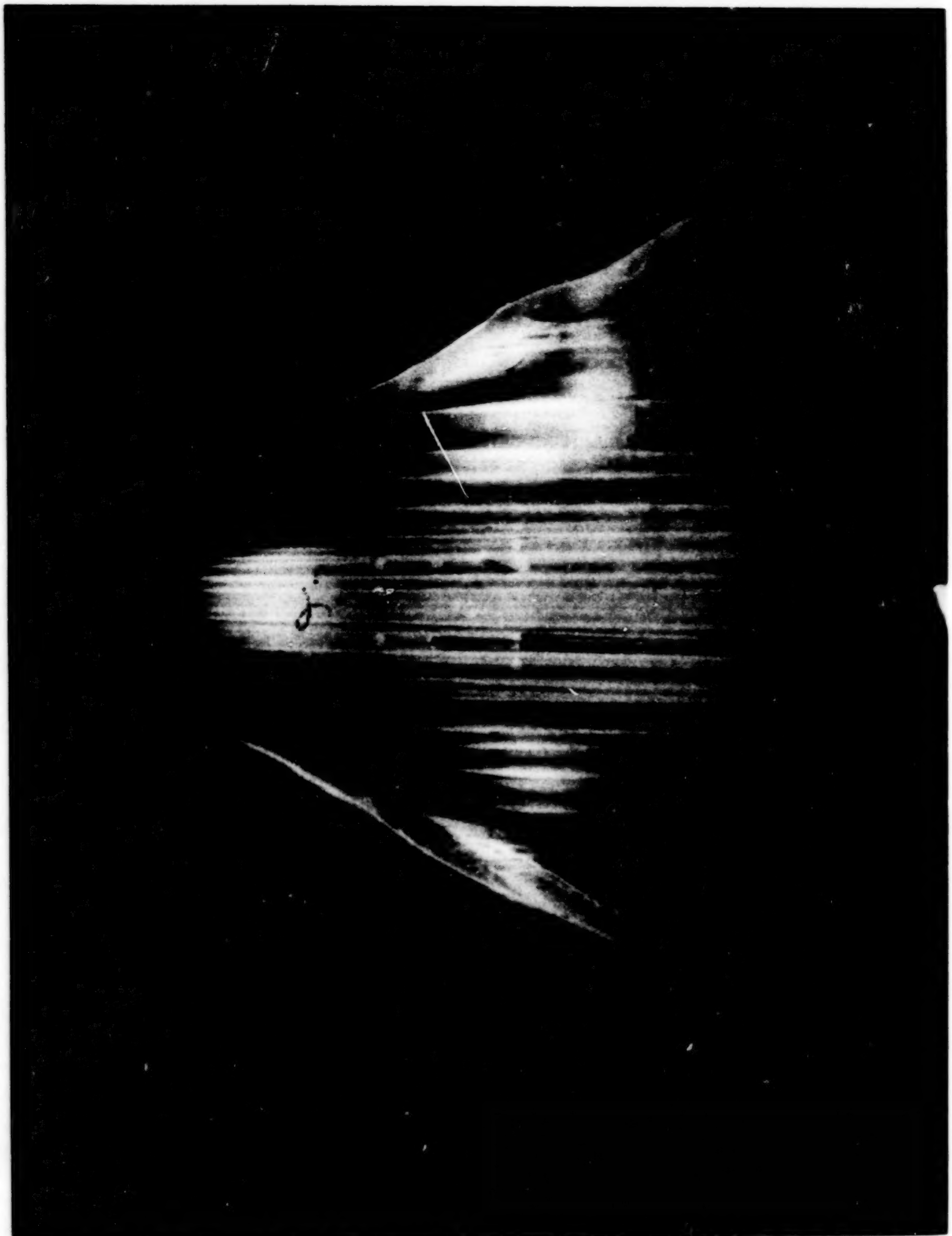

Main row of pressure orifices
$x/l = 0.550$
Streamwise flow parallel to center line
Oil accumulation at $\eta = 0.89$
Transition grit
First turning of flow; leading-edge expansion
Second turning of flow; shock wave at $\eta = 0.77$

(b) Concluded.

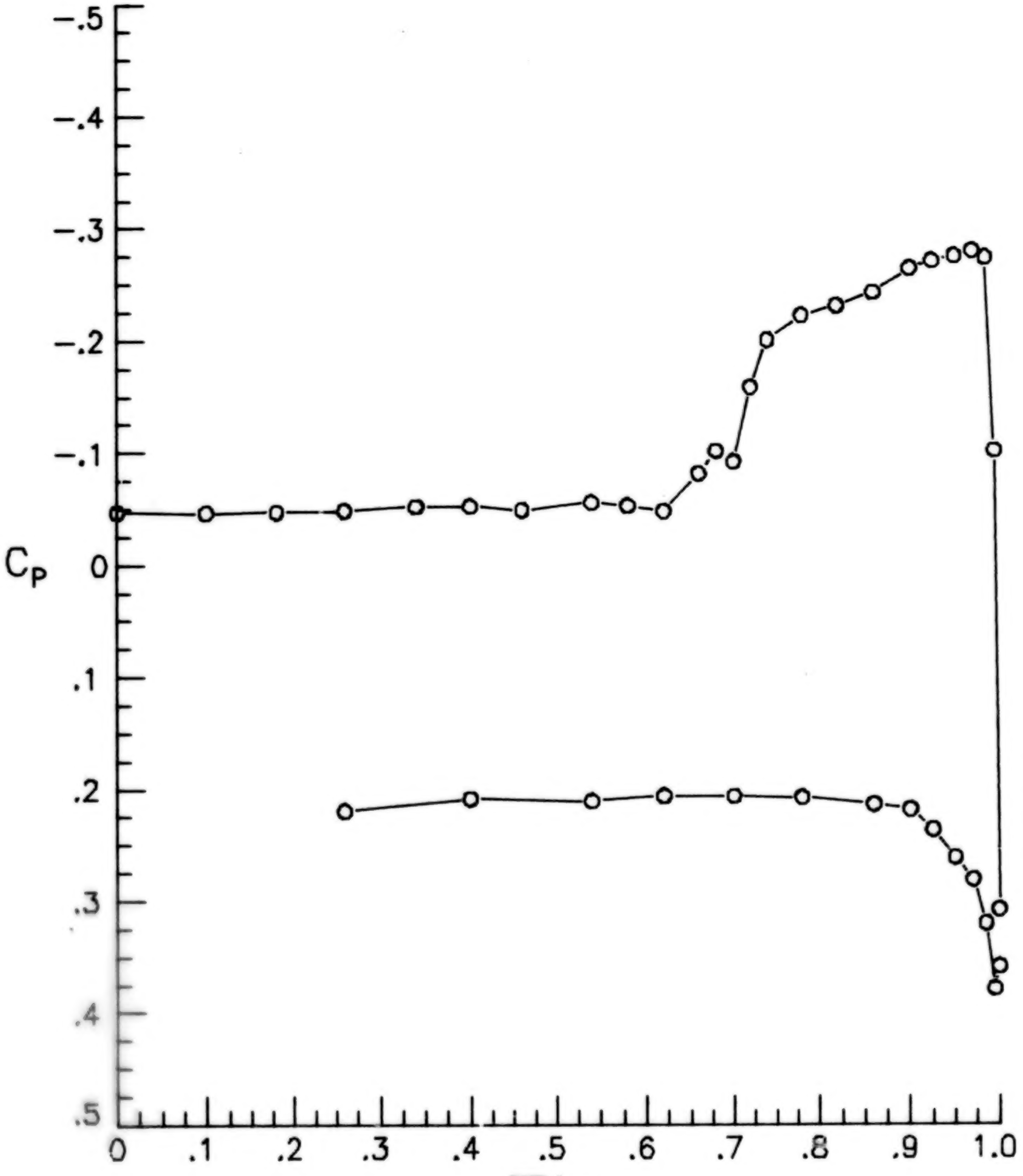
Figure 23.- Continued.



L-80-207

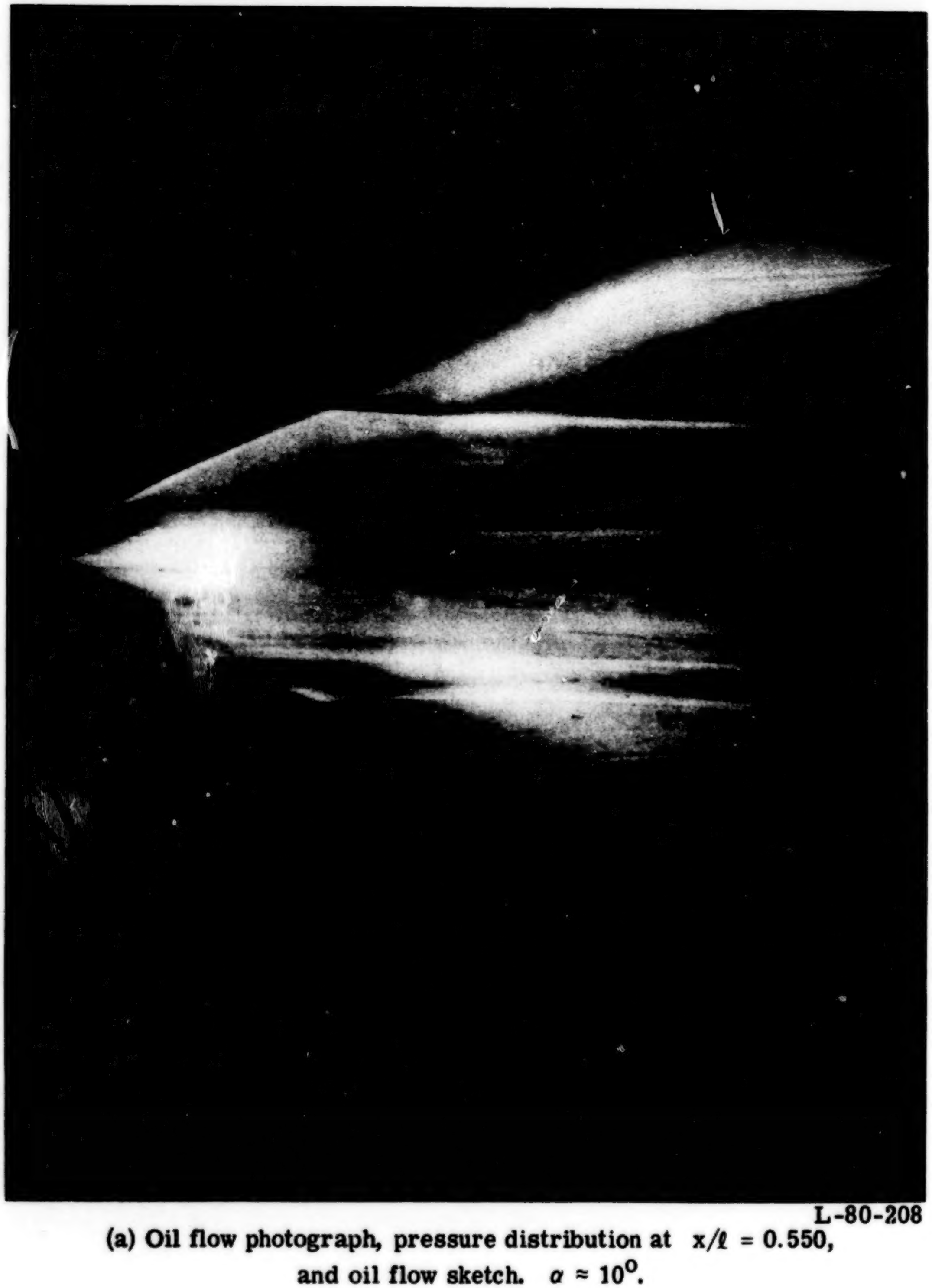
(c) Oil flow photograph and pressure distribution at $x/\ell = 0.550$. $\alpha \approx 6^{\circ}$.

Figure 23.- Continued.



(c) Concluded.

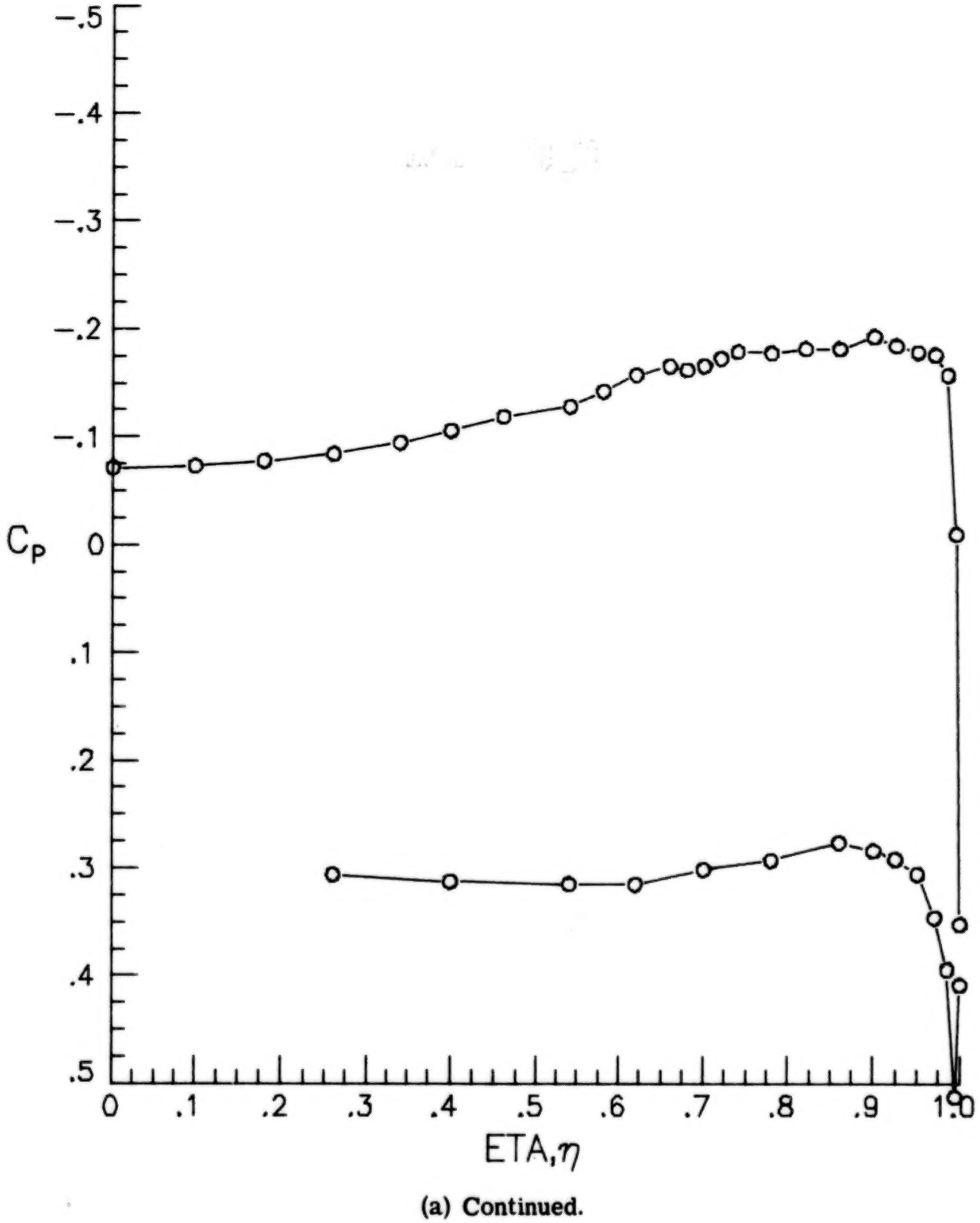
Figure 23.- Concluded.



L-80-208

(a) Oil flow photograph, pressure distribution at $x/\ell = 0.550$, and oil flow sketch. $\alpha \approx 10^{\circ}$.

Figure 24.- Flow visualization of cambered wing at $M = 1.62$.



(a) Continued.

Figure 24. - Continued.

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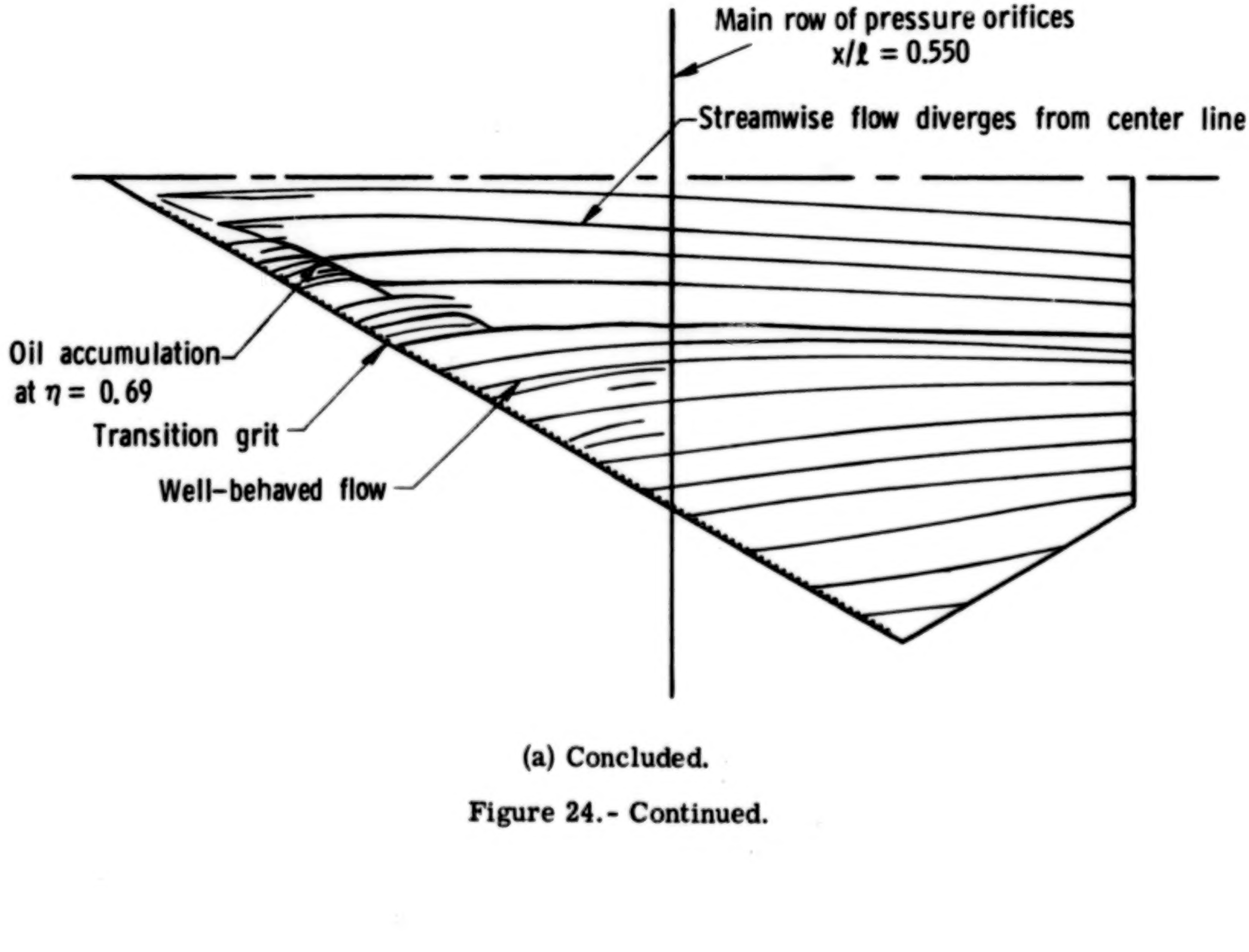
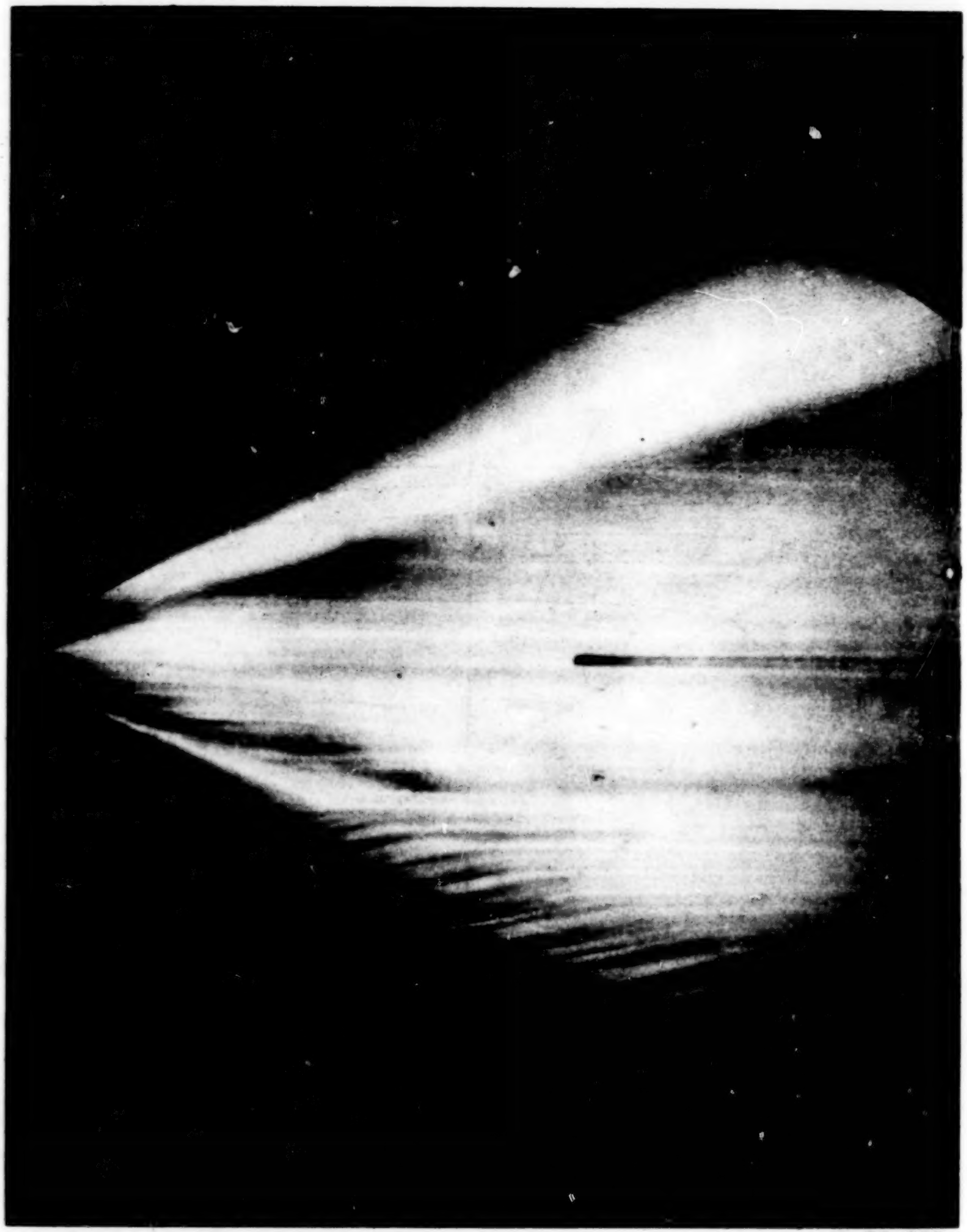

Main row of pressure orifices
$x/\ell = 0.550$
Streamwise flow diverges from center line
Oil accumulation
at $\eta = 0.69$
Transition grit
Well-behaved flow

(a) Concluded.

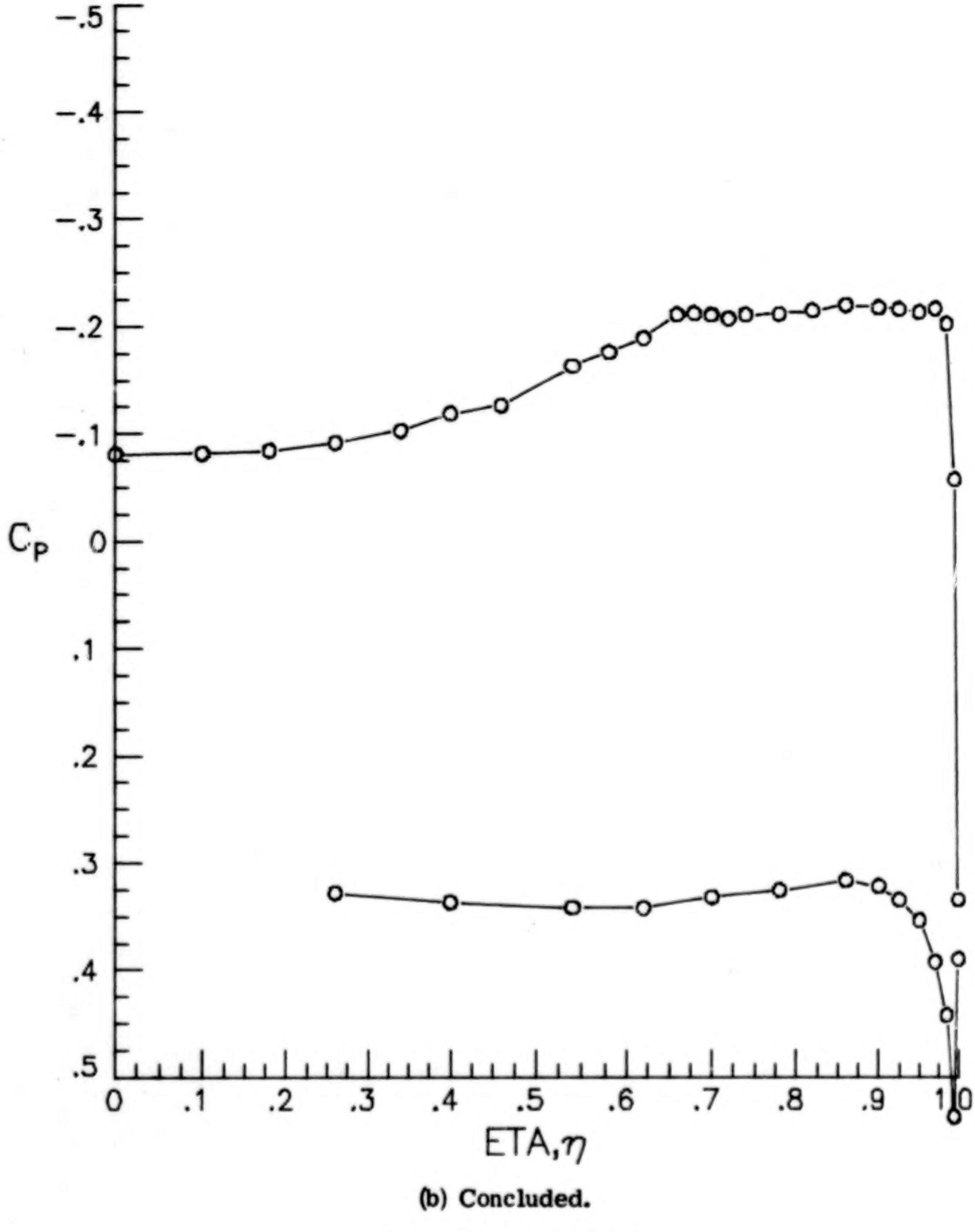
Figure 24.- Continued.



L-80-209

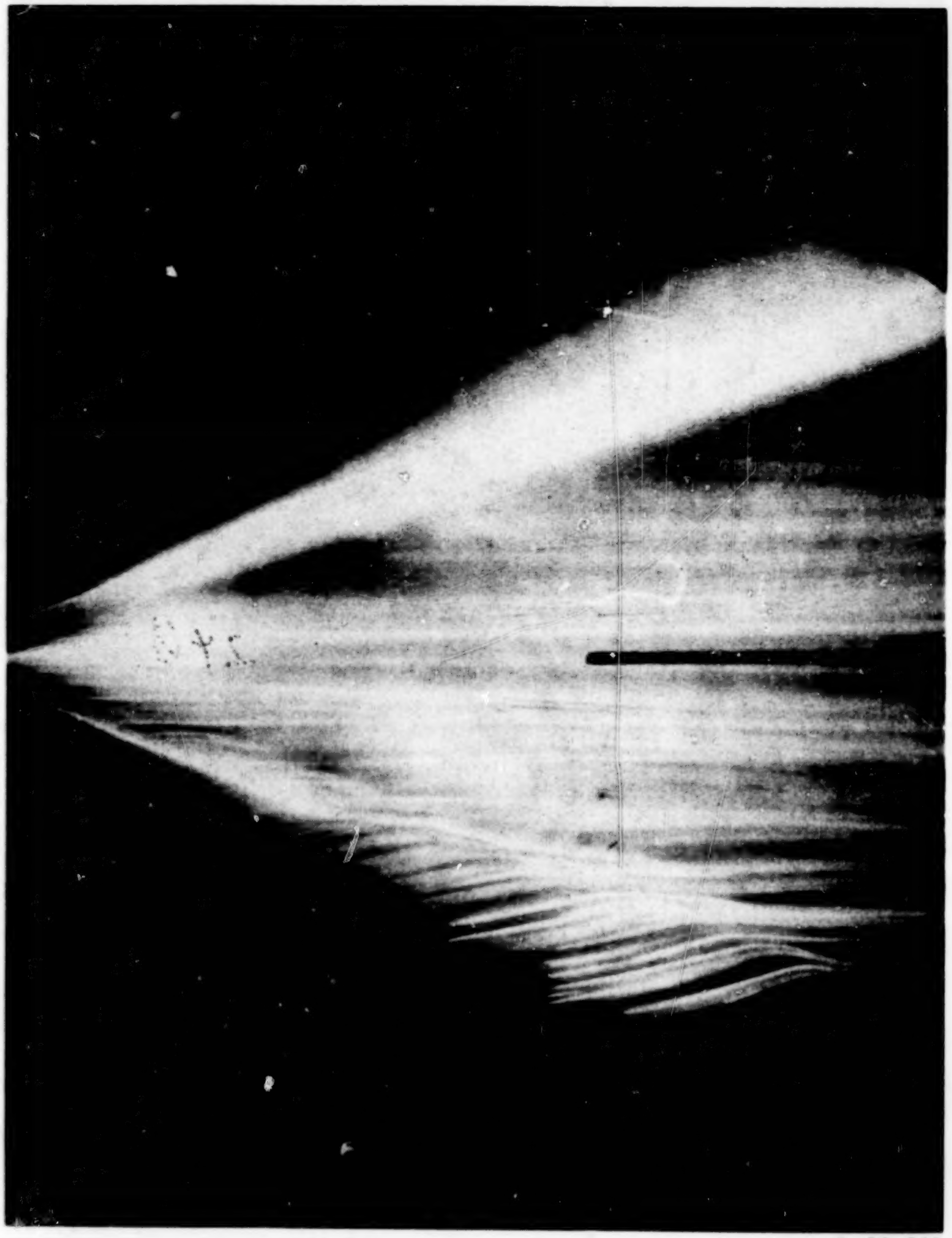
(b) Oil flow photograph and pressure distribution at $x/\ell = 0.550$. $\alpha \approx 11^{\circ}$.

Figure 24.- Continued.



(b) Concluded.

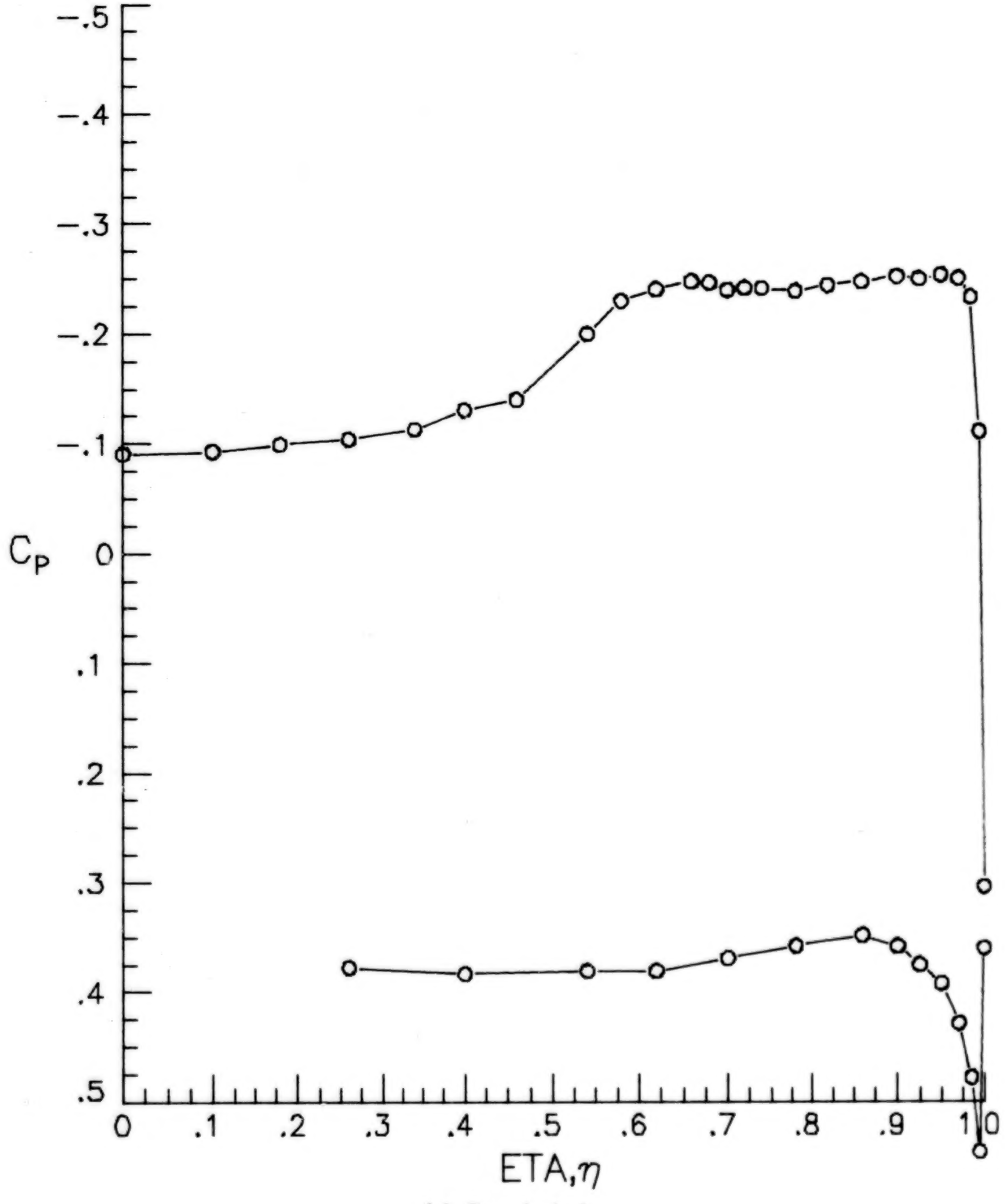
Figure 24.- Continued.



L-80-210

(c) Oil flow photograph and pressure distribution at $x/\ell = 0.550$. $\alpha \approx 12^{\circ}$.

Figure 24.- Continued.



(c) Concluded.

Figure 24.- Concluded.

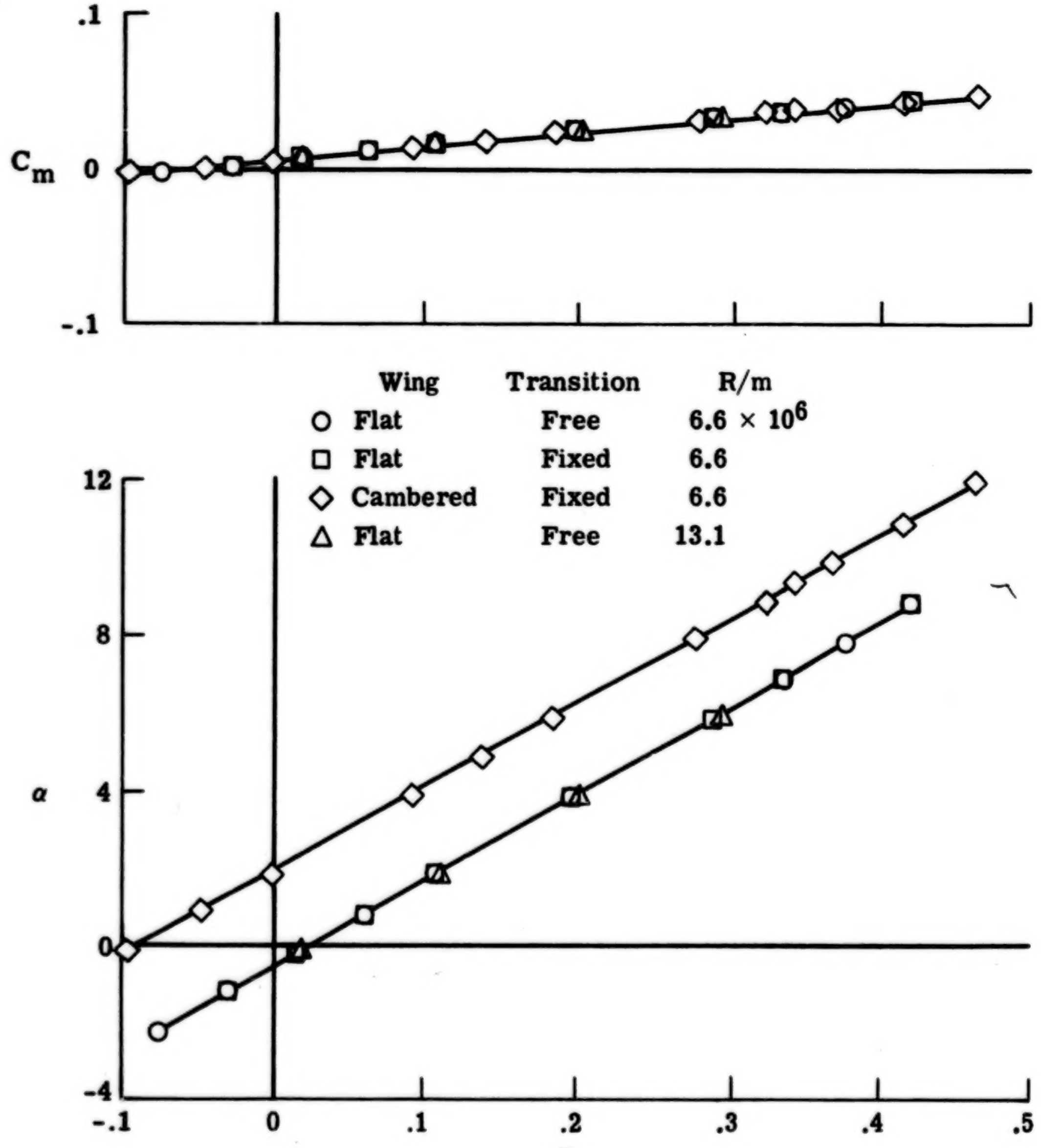


Figure 25.- Flat-wing and cambered-wing lift and moment results at M = 1.62.

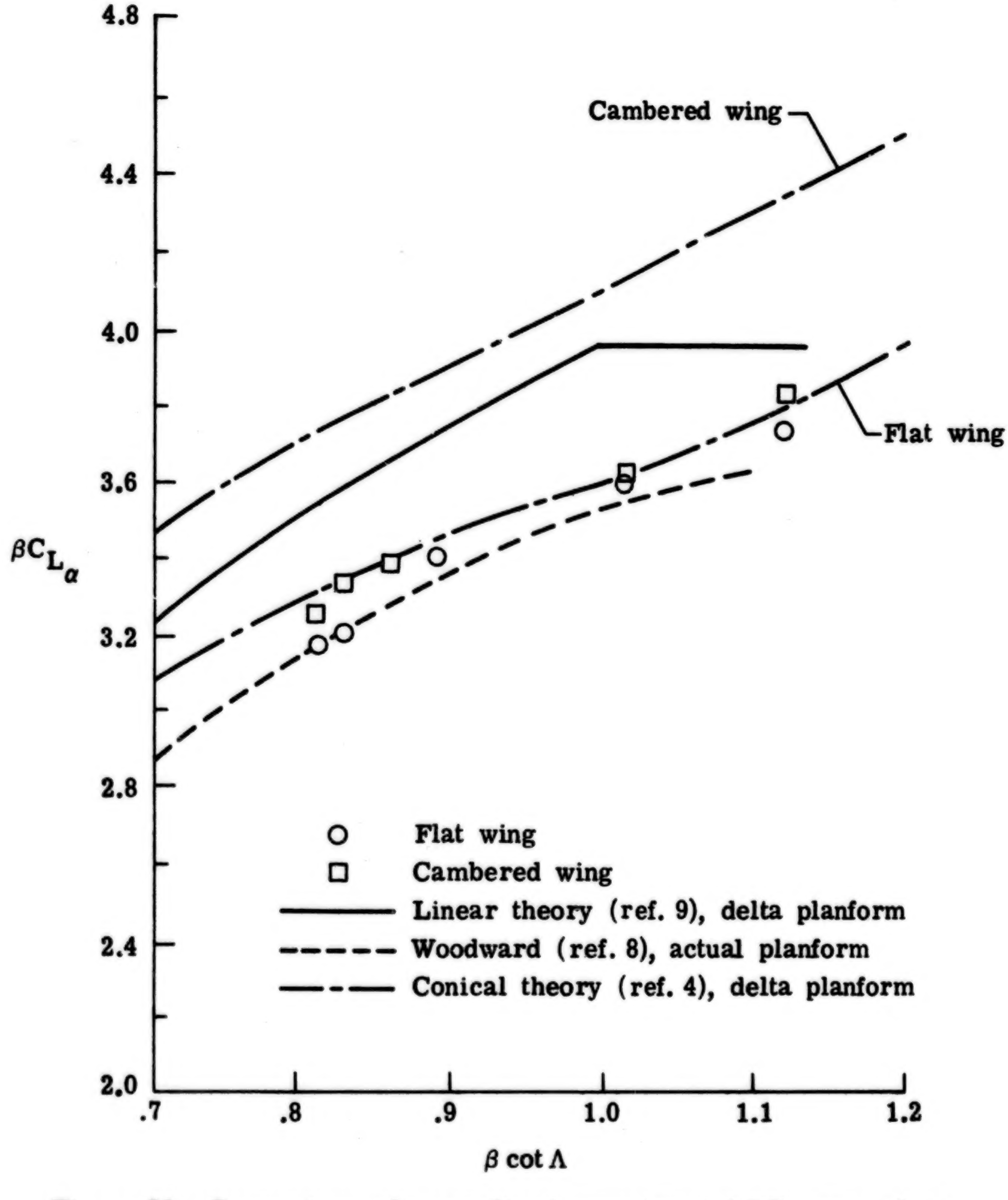


Figure 26.- Comparison of normalized experimental lift-curve slope with theoretical predictions.

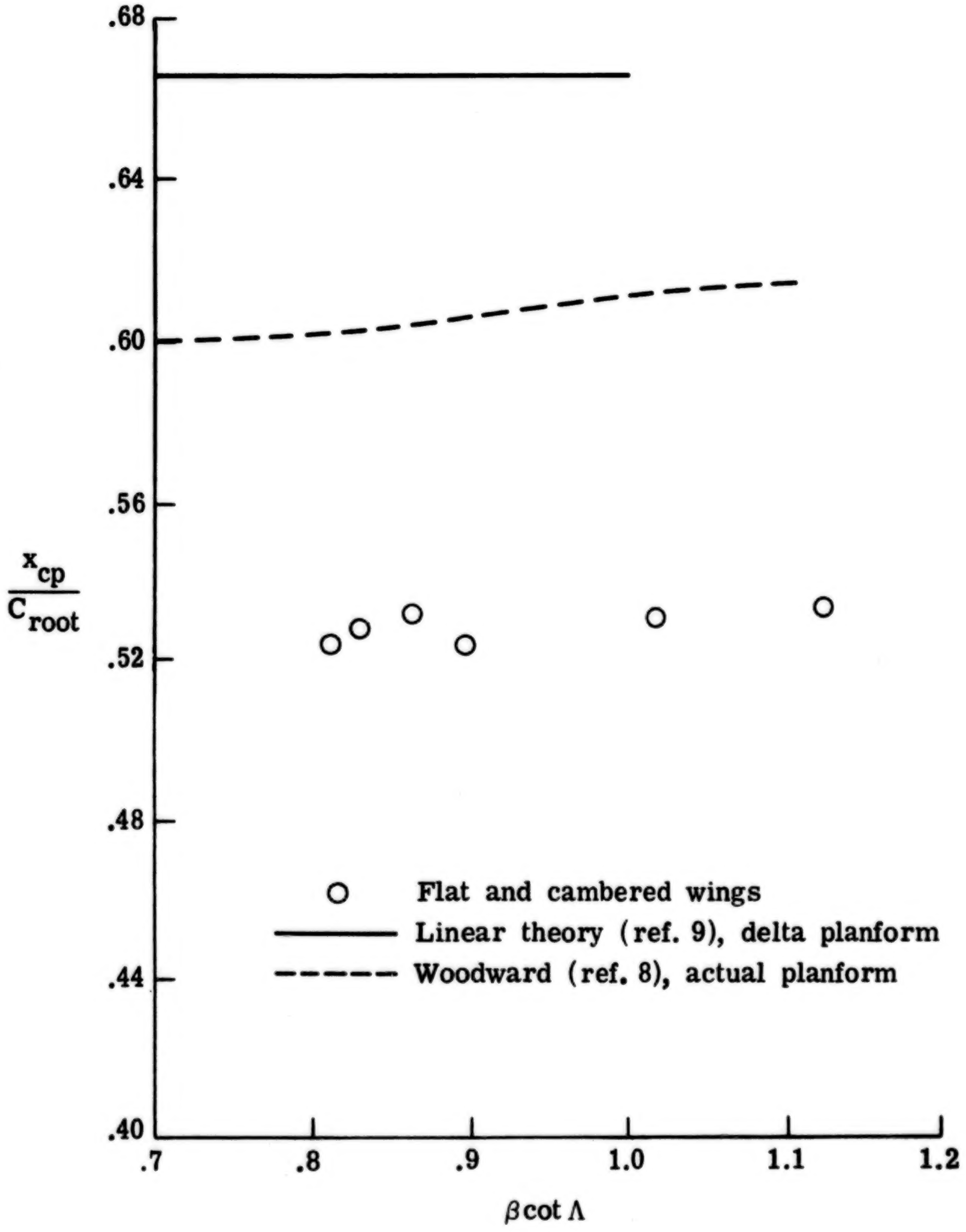


Figure 27.- Center-of-pressure comparisons.

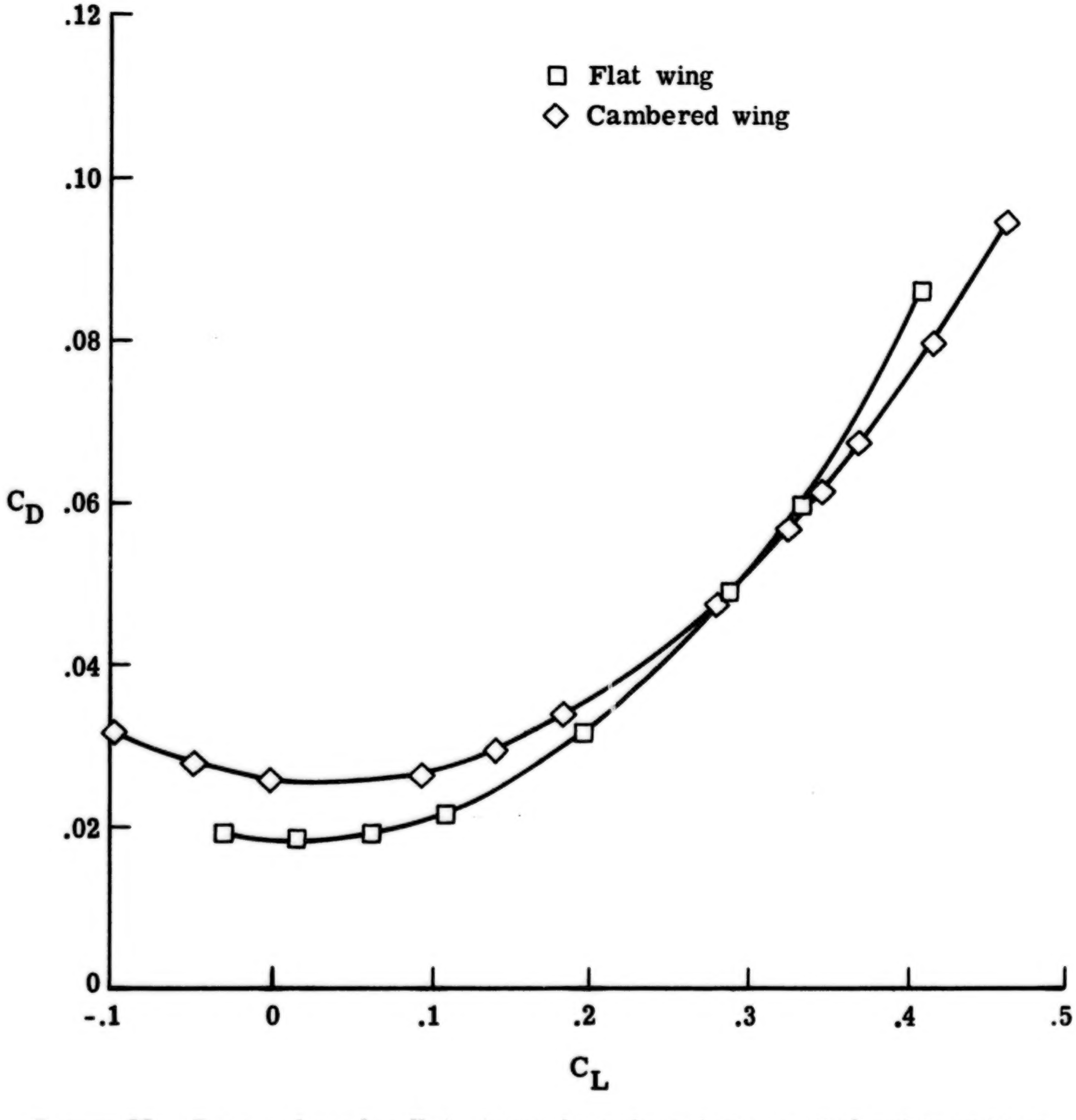


Figure 28.- Drag polars for flat wing and cambered wing with fixed transition at $M = 1.62$ and $R/m = 6.6 \times 10^6$.

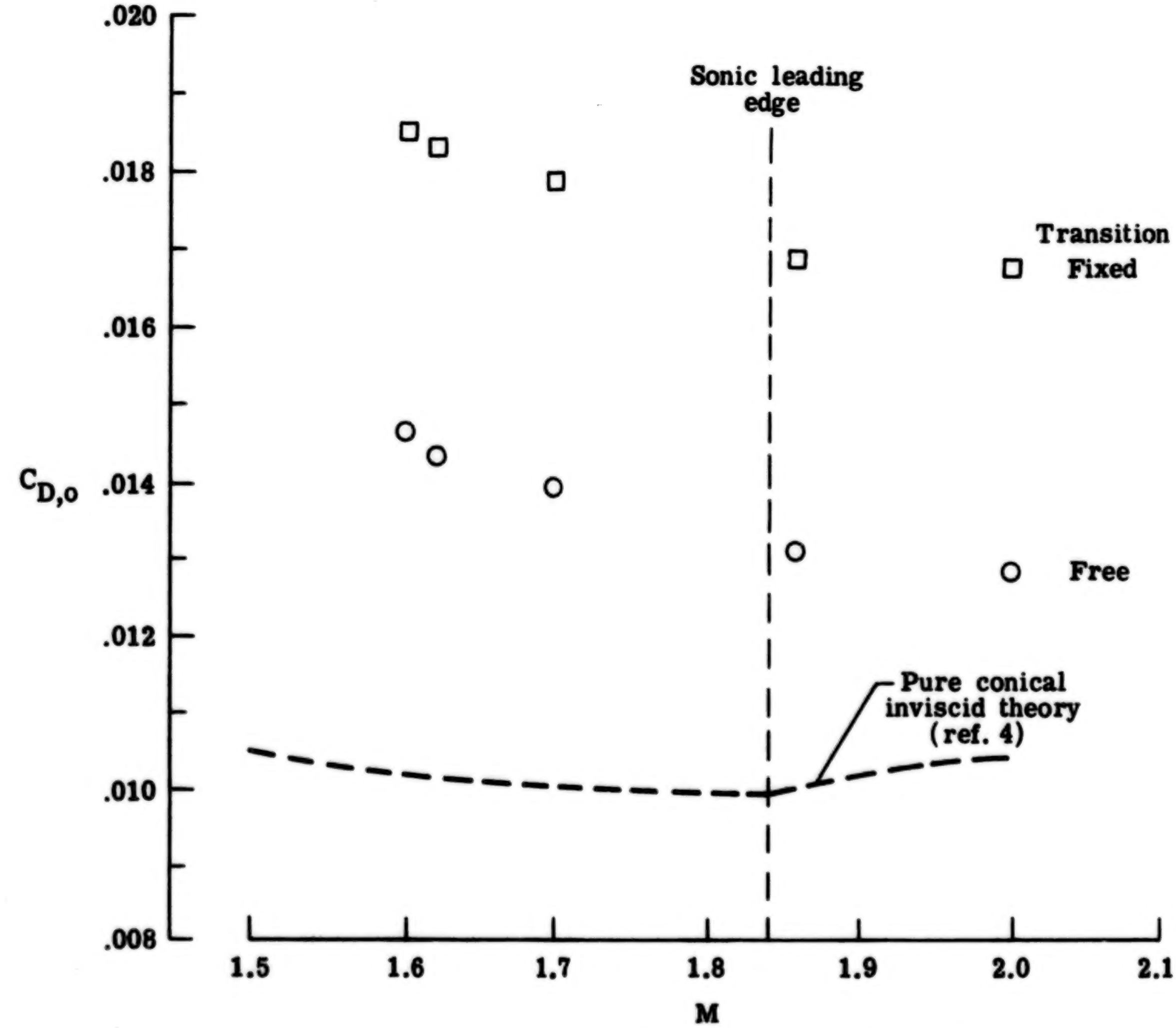


Figure 29. - Flat-wing minimum drag; $R/m = 6.6 \times 10^6$.

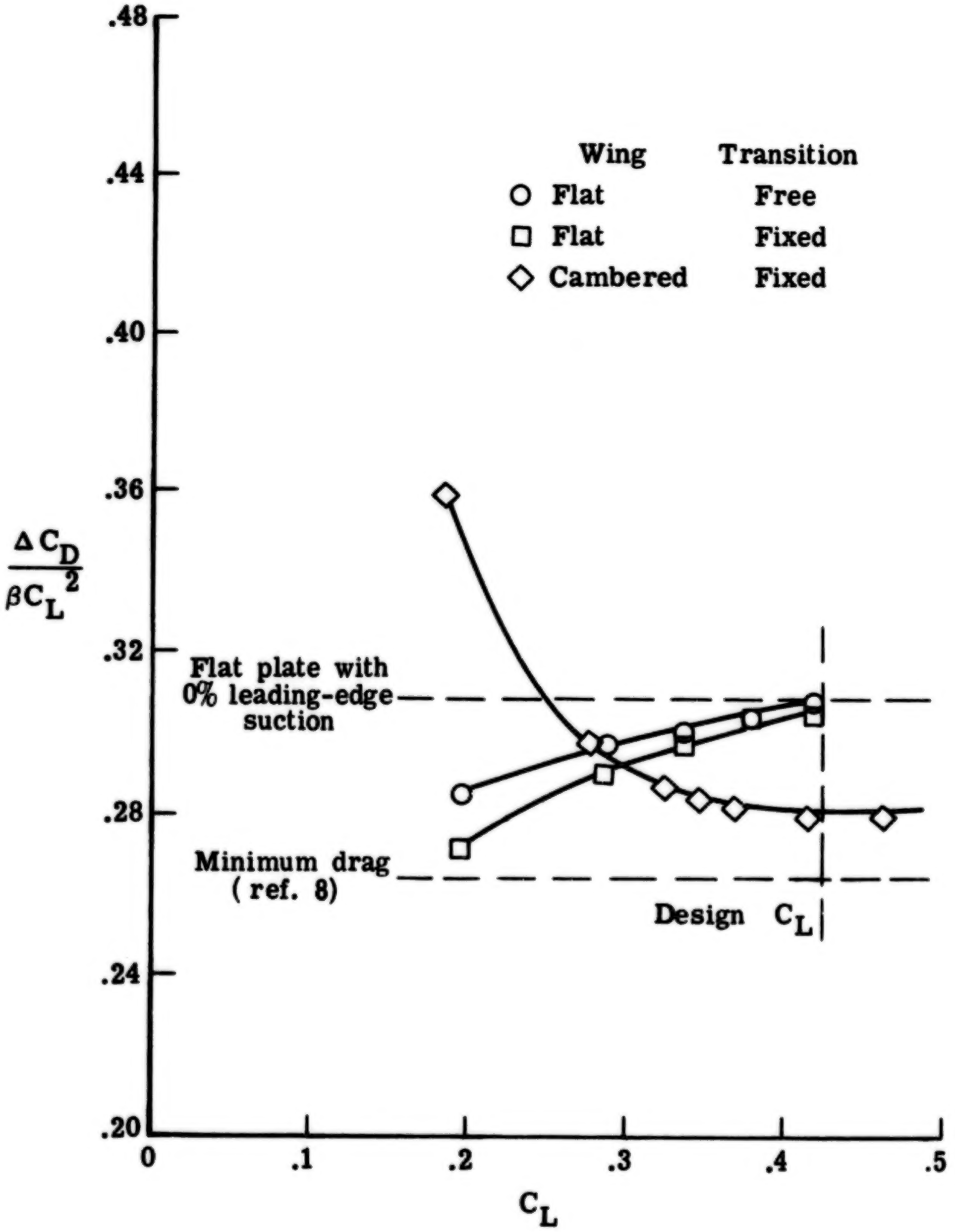


Figure 30.- Drag-due-to-lift analysis at R/m = 6.6×10^6 and M = 1.62.

APPENDIX A

DETAILS OF CONICAL WING DESIGN

Wing Design

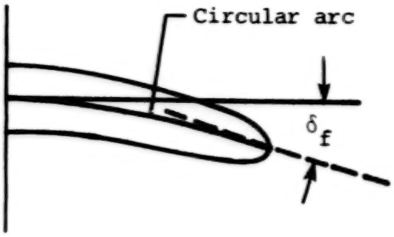
The basic spanwise section employed in the cambered wing shown in figure 2 was designed using the COREL code described in reference 4. The objective was to design a conical wing section shape which would produce a lift coefficient of approximately 0.4 at a Mach number of 1.62 and would possess a supercritical expansion and recompression of the upper-surface crossflow, controlled so as not to separate the boundary layer. In this appendix, the sequence of steps required to establish the spanwise section contour is outlined.

Initially, a parametric study of leading-edge geometry changes was performed to examine the effects on the leading-edge expansion pressures. A family of superelliptic thickness distributions was used to systematically change the degree of leading-edge bluntness. Shown in figure A1 are several typical leading-edge geometries and the resulting pressure distributions which were obtained by varying the value of the exponent ϵ in the following equation of the superellipse:

$$\left(\frac{z}{z_{\eta=0}}\right)^{2+\epsilon} + \eta^2 = 1$$

As expected, changes in the pressure distribution were generally confined to the wing leading-edge region. When $\epsilon = 0$, the standard elliptical spanwise cross section is obtained which produces a sharp peak in the pressure distribution at the wing leading edge. Increasing ϵ up to a value of 1.0 reduces the size of the overexpansion pressures; further increasing ϵ increases the pressure peak and shifts it inboard from the leading edge. Evidently, small increases in bluntness reduce the curvature at the nose, thus reducing the degree of the expansion. A further increase in bluntness ($\epsilon > 1$) leads to a geometry which contains an abrupt transition from the flat nose region to the upper surface, thereby inducing an increased expansion of the crossflow. The choice of $\epsilon = 1$ appeared to be the best compromise between these two effects, and $\epsilon = 1$ was picked as the base-line thickness envelope.

The next step involved a study of the camber effects on the pressure distribution. To accomplish this, circular-arc camber was combined with the base-line superelliptic thickness distribution. The circular-arc camber is defined by the following cross-section sketch:



Both pressure distribution and crossflow Mach number results are shown in figure A2 for values of δ_f ranging from 0° to 25° in increments of 5°. These results show that a desirable constant pressure plateau is obtained for values of δ_f between 10° and 15°; but the crossflow Mach number outboard of the shock is larger than the 1.2 maximum allowable value for which a turbulent boundary layer can be expected to remain attached after passing through the crossflow shock (ref. 10). Additional minor geometric modifications were required to reduce the shock strength.

The essential elements of these minor surface modifications involve adding thickness to the upper surface to reduce surface curvature and removing thickness from the lower surface to return to the base-line superelliptic thickness distribution. The upper-surface modification employed a sixth-order polynomial surface fit of the form

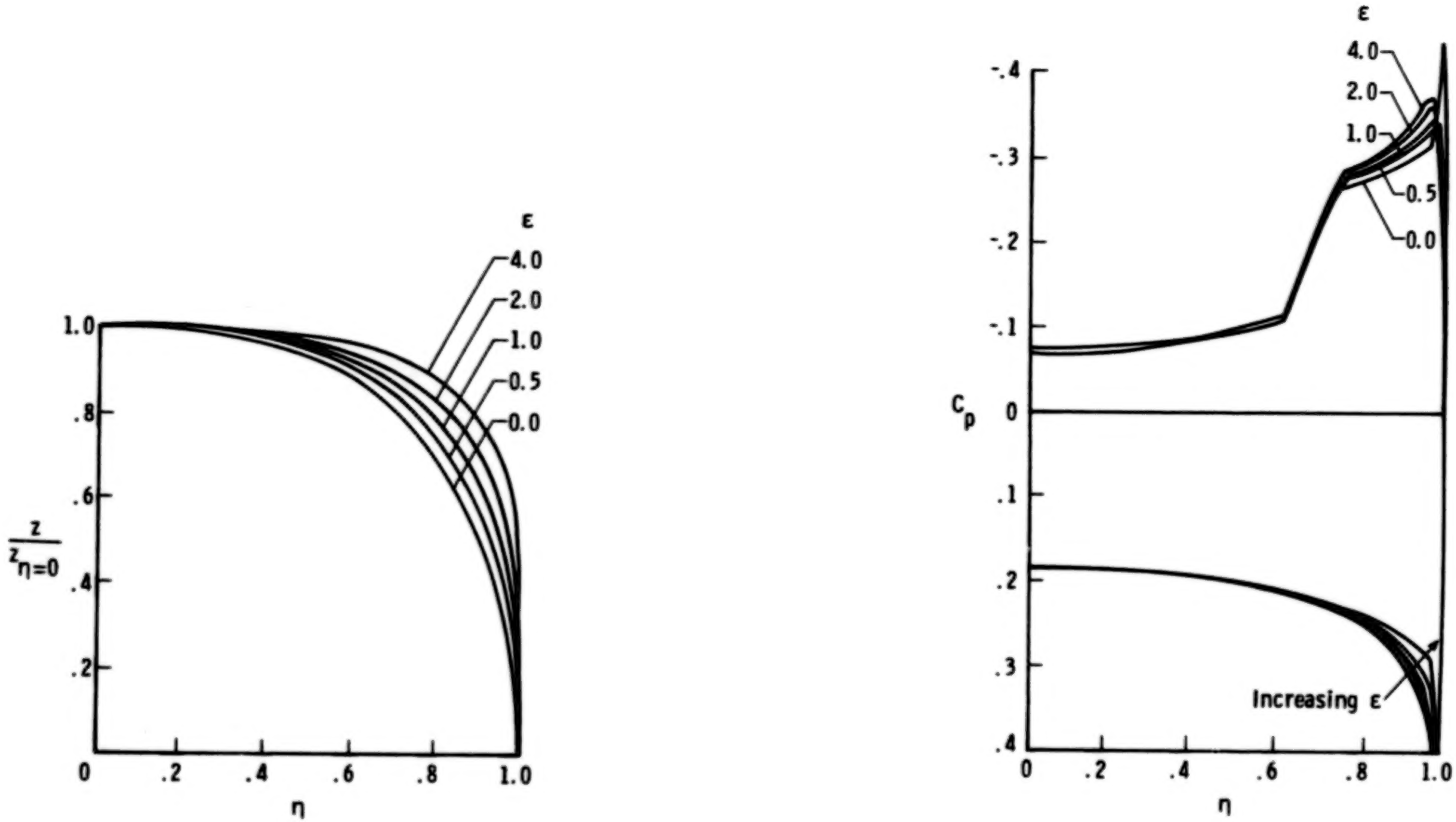
$$\Delta z \propto \bar{\eta}^3\left(1 - \bar{\eta}^3\right)$$

where $\bar{\eta}$ was normalized by the prescribed location of the beginning, maximum change and final η location of the surface alteration. This surface alteration form provides a modification in which both slope and curvature vanish at the end points of the modification region. The extent to which the upper surface was modified is shown in figure A3, along with computed pressure and crossflow Mach number distributions. As shown in the figure, an upper-surface buildup which increased the thickness-to-chord ratio t/c by only 0.8 percent was sufficient to reduce the crossflow Mach number (just outboard of the shock) to the acceptable level of 1.2.

Addition of Balance Housing

The wind-tunnel model required the addition of a balance housing on the lower surface. The effect of the housing on the pressure distribution is shown in figure A4. The housing addition produced both an increased expansion about the leading edge and a higher loading on the lower surface. The lower-surface lift increment is obviously the body-induced lift effect, and in this case, the lift coefficient increased from 0.392 to 0.456.

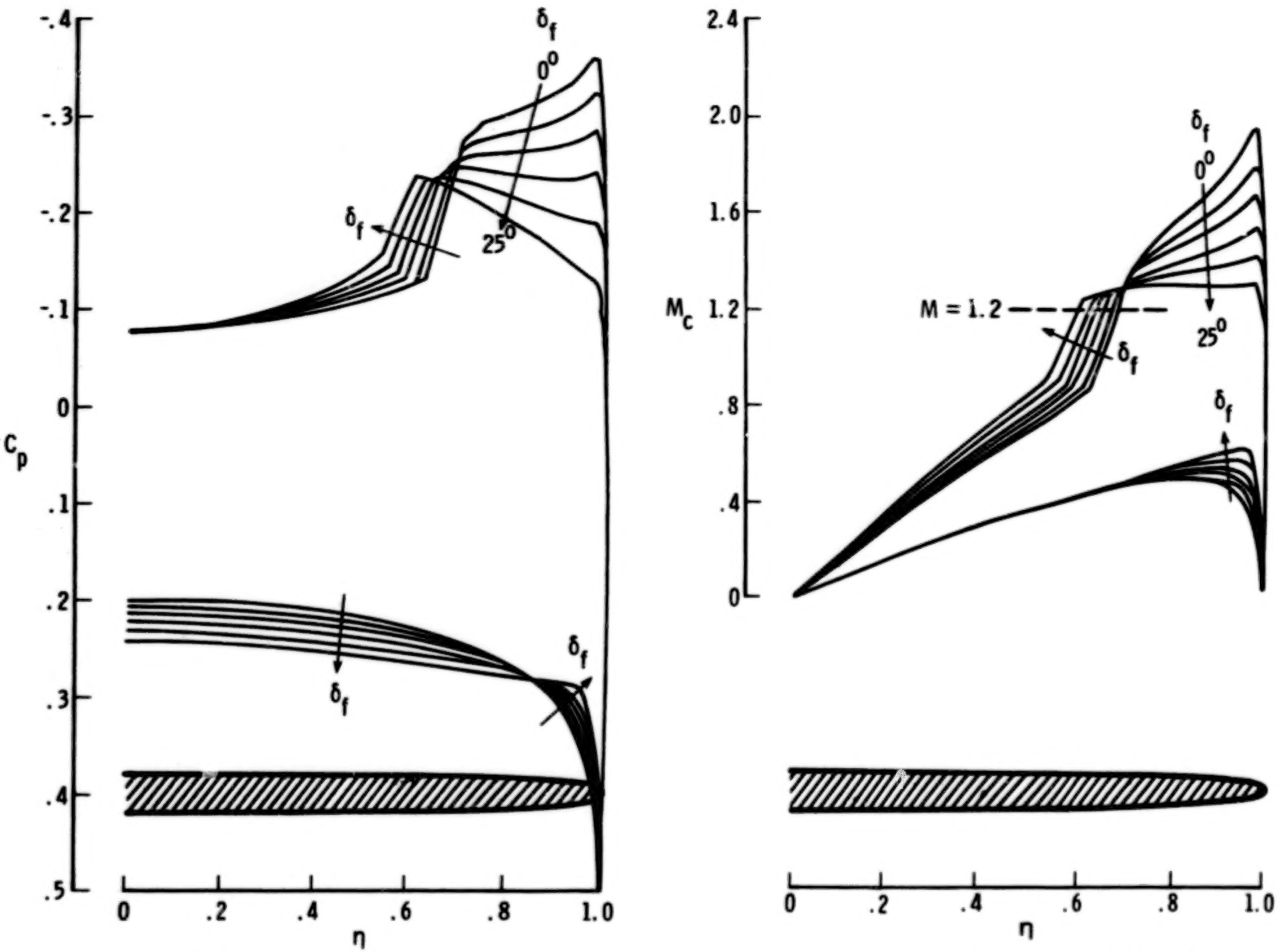
In order to compensate for the housing effect and to reduce the shock strength, additional camber (δ_f increased from 20° to 24°) was added and additional upper-surface modifications were performed. The new shapes and corresponding pressure distributions are shown in figure A5. The design angle of attack was reduced to 10° in order to reduce the lift coefficient, and thickness was removed from the lower surface to return to the base-line superelliptic thickness distribution. Shown in figure A6 are the results of these final actions which produced a spanwise section with $C_L = 0.457$ at $\alpha = 10^{\circ}$.



(a) Thickness distribution.

(b) Pressure distribution.

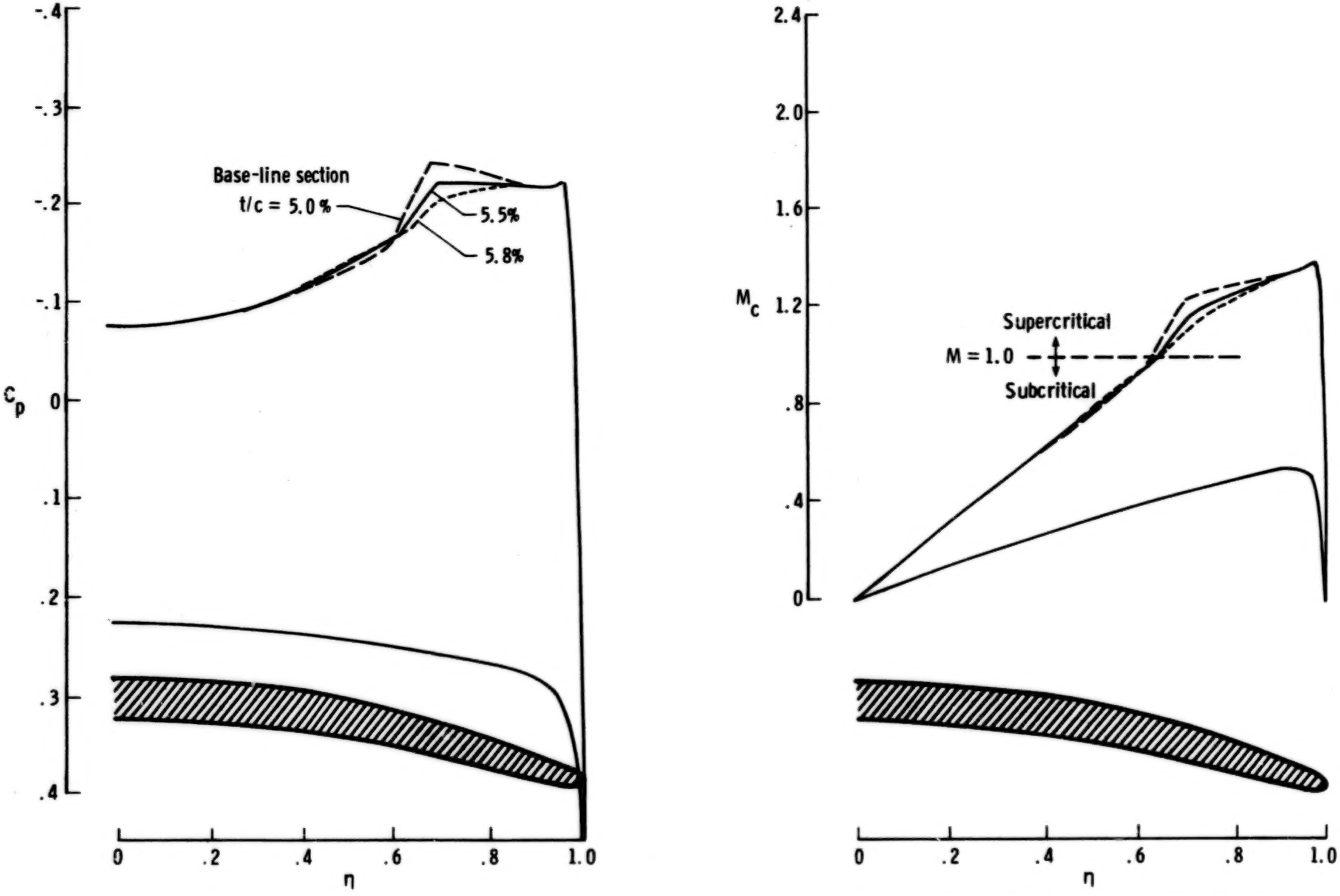
Figure A1.- Effect of leading-edge thickness tailoring on pressure distribution. M = 1.70; $\alpha = 8^{\circ}$; t/c = 5 percent; $\Lambda_{LE} = 57^{\circ}$.



(a) Pressure distribution.

(b) Crossflow Mach number distribution.

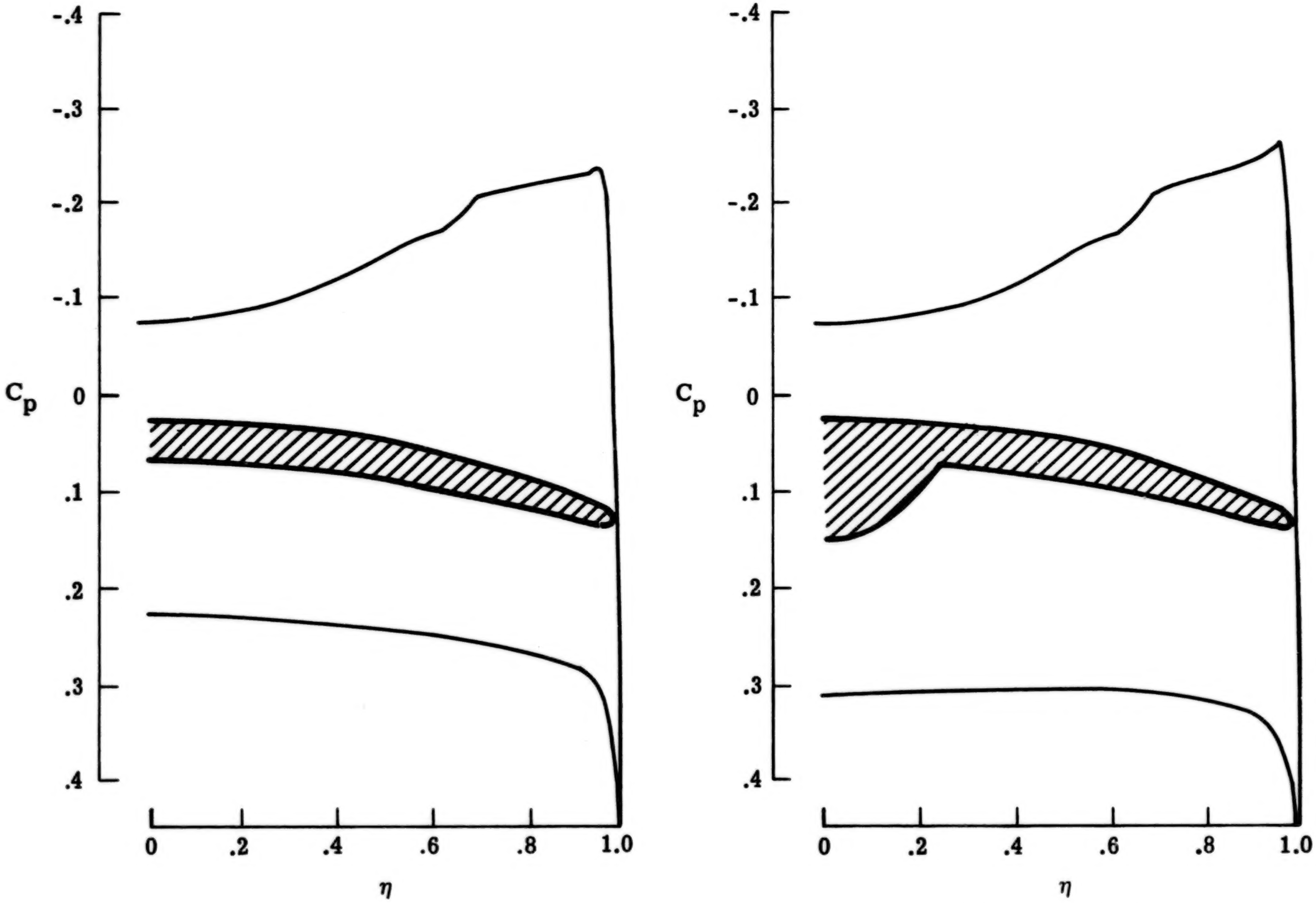
Figure A2.- Effect of circular-arc camber line variation on pressure and crossflow Mach number distributions. $M = 1.70$; $\Lambda_{LE} = 57^o$; $C_L \approx 0.4$.



(a) Pressure distribution.

(b) Crossflow Mach number distribution.

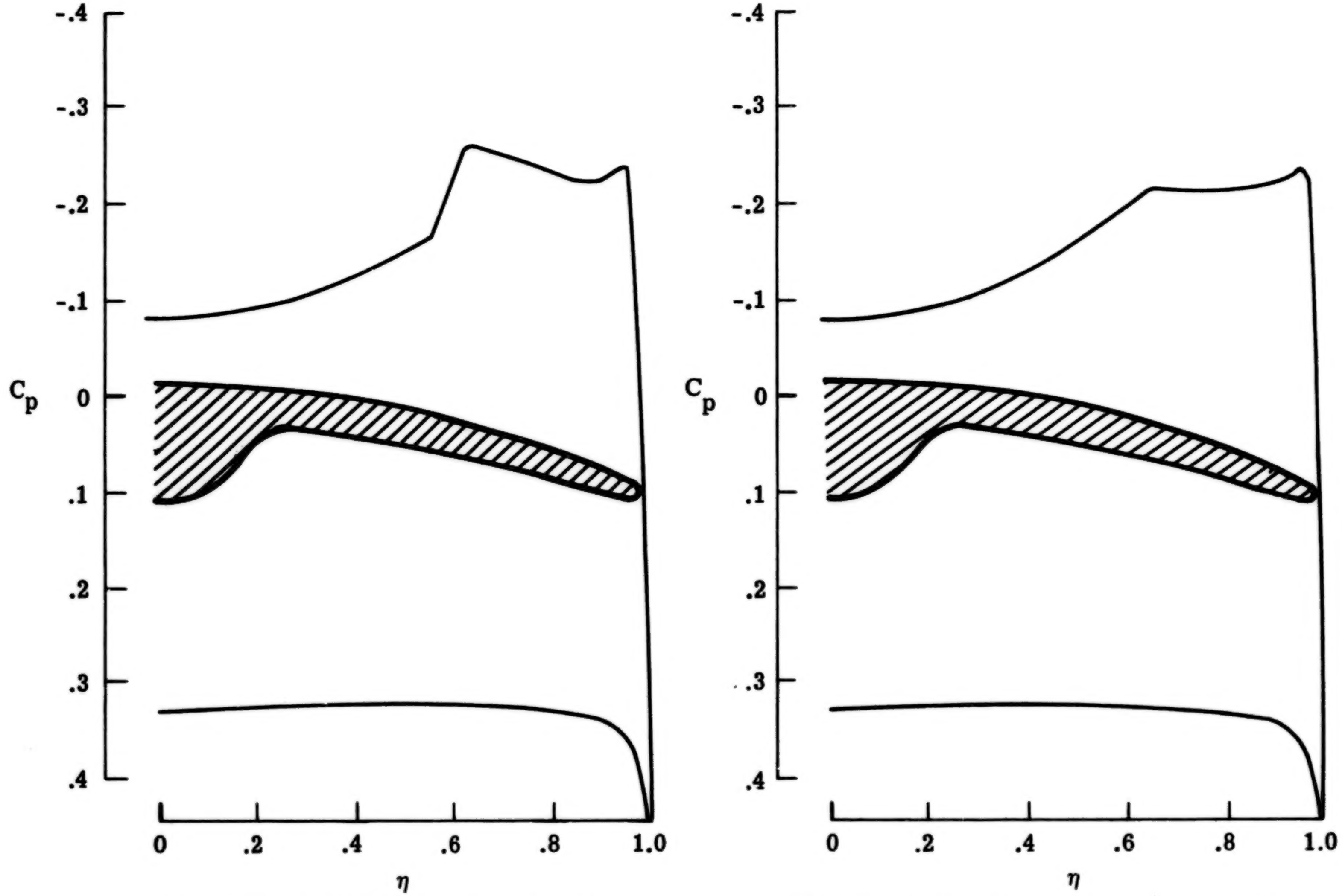
Figure A3.- Upper-surface modifications to reduce crossflow shock strength. $\delta_f = 20^{\circ}$; $M = 1.62$; $C_L \approx 0.4$.



(a) Without housing; $C_L = 0.392$.

(b) With housing; $C_L = 0.456$.

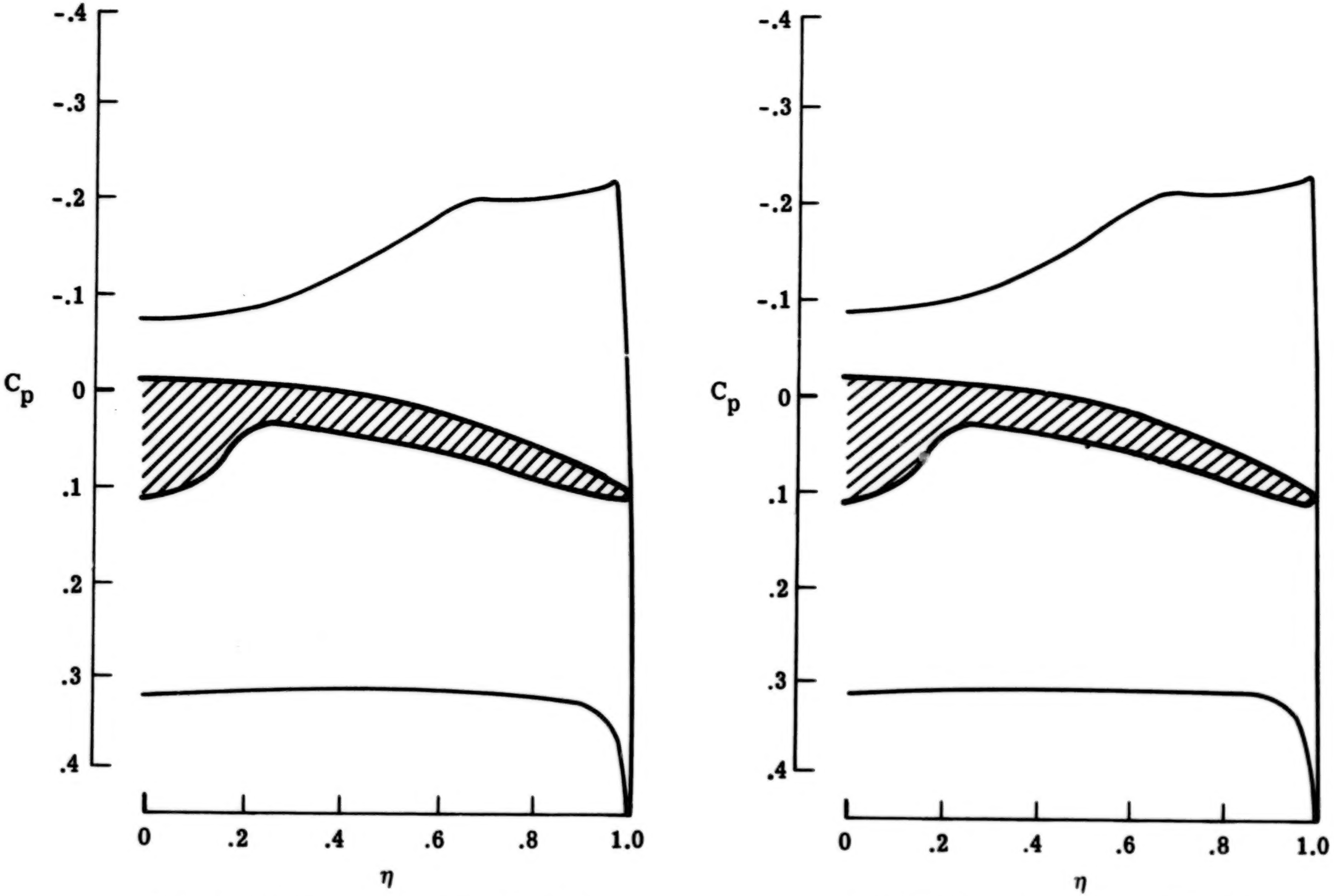
Figure A4. - Effect of balance housing on pressure distribution. $\delta_f = 20^\circ$; $M = 1.62$; $\alpha = 9.6^\circ$.



(a) Without modification; $C_L = 0.486$.

(b) With modification to eliminate crossflow shock; $C_L = 0.481$.

Figure A5.- Effect of upper-surface modification on revised base-line configuration $\left(\delta_f = 24^\circ\right)$. $M = 1.62$; $\alpha = 10.4^\circ$.



(a) Without lower-surface modification;
$C_L = 0.460$.

(b) With lower-surface modification;
$C_L = 0.457$.

Figure A6.- Effect of modifying lower surface of revised base-line configuration $(\delta_f = 24^\circ)$ at a reduced lift coefficient and reduced design angle of attack ($\alpha = 10^\circ$) to obtain original 5-percent thickness.

APPENDIX B

PRESSURE DATA

Pressure data for the two wings tested are given in tables B1 to B3. The pressure coefficients for each Mach number and angle of attack are presented at constant longitudinal stations as a function of the spanwise location parameter ($\eta = 1.000$ is the leading edge). Data are presented for the flat wing with free and fixed transition in tables B1 and B2, respectively, and for the cambered wing with fixed transition in table B3.

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION.

(A) M= 1.60, RE/M= 6.6 MILLION.

ALPHA= -1.19

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.0897
	.3400	.0564	
	.4000		.0793
	.5400	.0617	
	.6200	.0693	
	.6800	.0694	
	.7000		.0602
	.7200	.0687	
	.8600	.0537	
	.9250	.0479	-.0181
	.9700	.0759	
	.9850	.1148	-.0181
	1.0000	.4035	
0.550	0.0000	.0559	
	.1000	.0559	
	.1800	.0525	
	.2600	.0508	.0878
	.3400	.0528	
	.4000	.0532	.0790
	.4600	.0554	
	.5400	.0557	.0762
	.5800	.0579	
	.6200	.0580	.0723
	.6600	.0606	
	.6800	.0622	
	.7000	.0653	.0655
	.7200	.0654	
	.7400	.0672	
	.7800	.0646	.0225
	.8200	.0554	
	.8600	.0539	.0011
	.9000	.0557	-.0126
	.9250	.0532	-.0226
	.9500	.0678	-.0341
	.9700	.0842	-.0512
	.9850	.1138	-.0393
	.9950	.2588	.0335
	1.0000	.3784	.3715

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0739	
	.6200	.0803	
	.7200	.0813	
	.8600	.0900	
	1.0000	.3973	
0.675	1.0000	.4099	
0.725	.5400	.0589	.0681
	.6200	.0645	.0710
	.7200	.0641	.0675
	.8600	.0455	-.0014
	1.0000	.3902	
0.825	.5400	.0545	.0442
	.6200	.0594	.0406
	.7200	.0533	.0281

BASE PRESSURES

ORIFICE NO.	CP
50	-.3997
51	-.3150
52	-.2979
53	-.2954

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= -.20

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1072
	.3400	.0474	
	.4000		.0963
	.5400	.0434	
	.6200	.0488	
	.6800	.0474	
	.7000		.0808
	.7200	.0440	
	.8600	.0163	
	.9250	.0090	.0227
	.9700	.0133	
	.9850	.0454	.0227
	1.0000	.3728	
0.550	0.0000	.0383	
	.1000	.0383	
	.1800	.0382	
	.2600	.0381	.1127
	.3400	.0387	
	.4000	.0378	.0982
	.4600	.0449	
	.5400	.0482	.1016
	.5800	.0513	
	.6200	.0471	.0985
	.6600	.0457	
	.6800	.0490	
	.7000	.0468	.0768
	.7200	.0411	
	.7400	.0380	
	.7800	.0335	.0636
	.8200	.0251	
	.8600	.0215	.0450
	.9000	.0126	.0337
	.9250	.0133	.0309
	.9500	.0246	.0269
	.9700	.0269	.0291
	.9850	.0453	.0564
	.9950	.2074	.1229
	1.0000	.4088	.3897

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0564	
	.6200	.0572	
	.7200	.0442	
	.8600	.0562	
	1.0000	.3990	
0.675	1.0000	.4092	
0.725	.5400	.0456	.0853
	.6200	.0494	.0868
	.7200	.0429	.0708
	.8600	.0135	.0369
	1.0000	.3891	
0.825	.5400	.0370	.0701
	.6200	.0454	.0681
	.7200	.0318	.0472

BASE PRESSURES

ORIFICE NO.	CP
50	-.3896
51	-.2504
52	-.2875
53	-.2909

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TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= .81

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1189
	.3400	.0243	
	.4000		.1105
	.5400	.0241	
	.6200	.0311	
	.6800	.0180	
	.7000		.1005
	.7200	.0044	
	.8600	-.0257	
	.9250	-.0524	.0675
	.9700	-.0689	
	.9850	-.0523	.0675
	1.0000	.3392	
0.550	0.0000	.0203	
	.1000	.0203	
	.1800	.0201	
	.2600	.0247	.1295
	.3400	.0250	
	.4000	.0242	.1153
	.4600	.0210	
	.5400	.0307	.1131
	.5800	.0339	
	.6200	.0384	.1129
	.6600	.0367	
	.6800	.0329	
	.7000	.0270	.1062
	.7200	.0207	
	.7400	.0087	
	.7800	-.0036	.0919
	.8200	-.0115	
	.8600	-.0225	.0800
	.9000	-.0319	.0788
	.9250	-.0382	.0813
	.9500	-.0674	.0847
	.9700	-.0601	.0966
	.9850	-.0464	.1346
	.9950	.1200	.2132
	1.0000	.3928	.4057

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0348	
	.6200	.0338	
	.7200	.0144	
	.8600	.0065	
	1.0000	.3823	
0.675	1.0000	.3949	
0.725	.5400	.0220	.1045
	.6200	.0303	.1017
	.7200	.0205	.0974
	.8600	-.0266	.0761
	1.0000	.3620	
0.825	.5400	.0132	.0914
	.6200	.0233	.0885
	.7200	.0093	.0723

BASE PRESSURES

ORIFICE NO.	CP
50	-.3979
51	-.2665
52	-.2965
53	-.2909

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 1.77

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1375
	.3400	.0095	
	.4000		.1290
	.5400	.0062	
	.6200	.0156	
	.6800	.0212	
	.7000		.1222
	.7200	-.0005	
	.8600	-.0692	
	.9250	-.1050	.1098
	.9700	-.1432	
	.9850	-.1306	.1098
	1.0000	.3091	
0.550	0.0000	.0084	
	.1000	.0084	
	.1800	.0039	
	.2600	.0032	.1457
	.3400	.0036	
	.4000	.0072	.1326
	.4600	.0040	
	.5400	.0038	.1348
	.5800	.0121	
	.6200	.0091	.1327
	.6600	.0123	
	.6800	.0110	
	.7000	.0137	.1271
	.7200	.0113	
	.7400	-.0036	
	.7800	-.0424	.1166
	.8200	-.0647	
	.8600	-.0700	.1070
	.9000	-.0936	.1148
	.9250	-.1021	.1179
	.9500	-.1460	.1345
	.9700	-.1343	.1484
	.9850	-.0994	.1907
	.9950	.0407	.2720
	1.0000	.3661	.4028

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0092	
	.6200	.0050	
	.7200	-.0201	
	.8600	-.0679	
	1.0000	.3585	
0.675	1.0000	.3660	
0.725	.5400	.0015	.1178
	.6200	.0096	.1182
	.7200	.0078	.1173
	.8600	-.0780	.1082
	1.0000	.3289	
0.825	.5400	-.0075	.1029
	.6200	.0001	.1023
	.7200	-.0100	.0900

BASE PRESSURES

ORIFICE NO.	CP
50	-.4038
51	-.3150
52	-.2908
53	-.2906

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 3.85

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1713
	.3400	-.0235	
	.4000		.1639
	.5400	-.0291	
	.6200	-.0253	
	.6800	-.0305	
	.7000		.1663
	.7200	-.0490	
	.8600	-.1933	
	.9250	-.2069	.1841
	.9700	-.2614	
	.9850	-.2585	.1841
	1.0000	.2421	
0.550	0.0000	-.0244	
	.1000	-.0244	
	.1800	-.0288	
	.2600	-.0266	.1863
	.3400	-.0262	
	.4000	-.0310	.1753
	.4600	-.0293	
	.5400	-.0237	.1771
	.5800	-.0201	
	.6200	-.0183	.1781
	.6600	-.0220	
	.6800	-.0273	
	.7000	-.0402	.1771
	.7200	-.0417	
	.7400	-.0524	
	.7800	-.1254	.1751
	.8200	-.1845	
	.8600	-.1955	.1746
	.9000	-.2231	.1891
	.9250	-.2440	.1994
	.9500	-.2380	.2171
	.9700	-.2494	.2442
	.9850	-.2453	.2964
	.9950	-.0646	.3709
	1.0000	.3292	.3902

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0318	
	.6200	-.0318	
	.7200	-.0369	
	.8600	-.1793	
	1.0000	.2963	
0.675	1.0000	.3285	
0.725	.5400	-.0337	.1644
	.6200	-.0286	.1676
	.7200	-.0330	.1701
	.8600	-.2141	.1762
	1.0000	.2730	
0.825	.5400	-.0447	.1491
	.6200	-.0362	.1537
	.7200	-.0500	.1448

BASE PRESSURES

ORIFICE NO.	CP
50	-.4052
51	-.3735
52	-.2980
53	-.2904

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 5.79

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2110
	.3400	-.0601	
	.4000		.2067
	.5400	-.0624	
	.6200	-.0782	
	.6800	-.1196	
	.7000		.2151
	.7200	-.1506	
	.8600	-.2754	
	.9250	-.2774	.2509
	.9700	-.3213	
	.9850	-.3336	.2509
	1.0000	.1919	
0.550	0.0000	-.0528	
	.1000	-.0528	
	.1800	-.0560	
	.2600	-.0512	.2259
	.3400	-.0523	
	.4000	-.0577	.2164
	.4600	-.0555	
	.5400	-.0537	.2196
	.5800	-.0606	
	.6200	-.0677	.2187
	.6600	-.1048	
	.6800	-.1059	
	.7000	-.1061	.2206
	.7200	-.1645	
	.7400	-.1750	
	.7800	-.1909	.2241
	.8200	-.2668	
	.8600	-.2813	.2353
	.9000	-.3000	.2448
	.9250	-.3206	.2622
	.9500	-.3250	.2848
	.9700	-.3330	.3197
	.9850	-.3277	.3667
	.9950	-.1702	.4244
	1.0000	.2785	.3568
0.625	.5400	-.0643	
	.6200	-.0886	
	.7200	-.0982	
	.8600	-.2550	
	1.0000	.2552	
0.675	1.0000	.2714	
0.725	.5400	-.0668	.2044
	.6200	-.0693	.2097
	.7200	-.1373	.2145
	.8600	-.2938	.2283
	1.0000	.2055	
0.825	.5400	-.0856	.1847
	.6200	-.0677	.1970
	.7200	-.1424	.1919

BASE PRESSURES

ORIFICE NO.	CP
50	-.3972
51	-.3935
52	-.3269
53	-.2776

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 6.80

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2270
	.3400	-.0804	
	.4000		.2239
	.5400	-.0964	
	.6200	-.1340	
	.6800	-.1665	
	.7000		.2390
	.7200	-.2152	
	.8600	-.3019	
	.9250	-.3069	.2797
	.9700	-.3339	
	.9850	-.3669	.2797
	1.0000	.1623	
0.550	0.0000	-.0673	
	.1000	-.0673	
	.1800	-.0683	
	.2600	-.0672	.2454
	.3400	-.0664	
	.4000	-.0677	.2363
	.4600	-.0716	
	.5400	-.0747	.2426
	.5800	-.0847	
	.6200	-.0862	.2415
	.6600	-.1295	
	.6800	-.1633	
	.7000	-.1666	.2457
	.7200	-.2004	
	.7400	-.2210	
	.7800	-.2294	.2521
	.8200	-.3024	
	.8600	-.3143	.2654
	.9000	-.3295	.2818
	.9250	-.3446	.2967
	.9500	-.3507	.3265
	.9700	-.3618	.3612
	.9850	-.3591	.4090
	.9950	-.2064	.4597
	1.0000	.2573	.3423

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0735	
	.6200	-.1343	
	.7200	-.1428	
	.8600	-.2798	
	1.0000	.2171	
0.675	1.0000	.2422	
0.725	.5400	-.0931	.2332
	.6200	-.1046	.2440
	.7200	-.1874	.2535
	.8600	-.3283	.2683
	1.0000	.1702	
0.825	.5400	-.1142	.2005
	.6200	-.0943	.2194
	.7200	-.1699	.2196

BASE PRESSURES

ORIFICE NO.	CP
50	-.4128
51	-.3973
52	-.3336
53	-.2725

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 7.84

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2635
	.3400	-.0866	
	.4000		.2558
	.5400	-.1307	
	.6200	-.1914	
	.6800	-.2236	
	.7000		.2726
	.7200	-.2503	
	.8600	-.3274	
	.9250	-.3291	.3184
	.9700	-.3430	
	.9850	-.3869	.3184
	1.0000	.1345	
0.550	0.0000	-.0820	
	.1000	-.0820	
	.1800	-.0840	
	.2600	-.0826	.2794
	.3400	-.0800	
	.4000	-.0818	.2737
	.4600	-.0905	
	.5400	-.1147	.2755
	.5800	-.1227	
	.6200	-.1632	.2718
	.6600	-.2002	
	.6800	-.2296	
	.7000	-.2328	.2723
	.7200	-.2405	
	.7400	-.2606	
	.7800	-.2624	.2774
	.8200	-.3212	
	.8600	-.3449	.2891
	.9000	-.3548	.3041
	.9250	-.3630	.3222
	.9500	-.3676	.3482
	.9700	-.3806	.3771
	.9850	-.3857	.4247
	.9950	-.2228	.4613
	1.0000	.2331	.2978

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1185	
	.6200	-.1917	
	.7200	-.1865	
	.8600	-.3161	
	1.0000	.2028	
0.675	1.0000	.2139	
0.725	.5400	-.1348	.2488
	.6200	-.1342	.2598
	.7200	-.2198	.2674
	.8600	-.3631	.2861
	1.0000	.1315	
0.825	.5400	-.1375	.2174
	.6200	-.1320	.2353
	.7200	-.1995	.2365

BASE PRESSURES

ORIFICE NO.	CP
50	-.4240
51	-.3977
52	-.3427
53	-.2678

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 8.79

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2753
	.3400	-.0940	
	.4000		.2728
	.5400	-.1769	
	.6200	-.2303	
	.6800	-.2552	
	.7000		.2905
	.7200	-.2876	
	.8600	-.3450	
	.9250	-.3493	.3396
	.9700	-.3568	
	.9850	-.3945	.3396
	1.0000	.1054	
0.550	0.0000	-.0916	
	.1000	-.0916	
	.1800	-.0916	
	.2600	-.0897	.2949
	.3400	-.0903	
	.4000	-.0864	.2905
	.4600	-.0942	
	.5400	-.1464	.2955
	.5800	-.1937	
	.6200	-.2100	.2944
	.6600	-.2325	
	.6800	-.2467	
	.7000	-.2483	.2968
	.7200	-.2755	
	.7400	-.2931	
	.7800	-.2831	.3074
	.8200	-.3443	
	.8600	-.3690	.3214
	.9000	-.3753	.3429
	.9250	-.3798	.3597
	.9500	-.3871	.3843
	.9700	-.3984	.4149
	.9850	-.4016	.4536
	.9950	-.2517	.4822
	1.0000	.2078	.2720

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1676	
	.6200	-.2302	
	.7200	-.2185	
	.8600	-.3426	
	1.0000	.1442	
0.675	1.0000	.1905	
0.725	.5400	-.1821	.2759
	.6200	-.1730	.2892
	.7200	-.2425	.2968
	.8600	-.3883	.3182
	1.0000	.0965	
0.825	.5400	-.1725	.2330
	.6200	-.1876	.2551
	.7200	-.2433	.2623

BASE PRESSURES

ORIFICE NO.	CP
50	-.4322
51	-.3956
52	-.3484
53	-.2744

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION.

ALPHA= -1.20

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.0909
	.3400	.0558	
	.4000		.0779
	.5400	.0650	
	.6200	.0697	
	.6800	.0718	
	.7000		.0607
	.7200	.0668	
	.8600	.0510	
	.9250	.0521	-.0187
	.9700	.0723	
	.9850	.1183	-.0187
	1.0000	.3998	
0.550	0.0000	.0575	
	.1000	.0575	
	.1800	.0571	
	.2600	.0627	.0923
	.3400	.0634	
	.4000	.0546	.0834
	.4600	.0598	
	.5400	.0734	.0832
	.5800	.0712	
	.6200	.0735	.0802
	.6600	.0746	
	.6800	.0702	
	.7000	.0732	.0726
	.7200	.0691	
	.7400	.0654	
	.7800	.0577	.0301
	.8200	.0495	
	.8600	.0512	.0098
	.9000	.0542	-.0054
	.9250	.0650	-.0196
	.9500	.0631	-.0256
	.9700	.0865	-.0353
	.9850	.1242	-.0355
	.9950	.2685	.0444
	1.0000	.4155	.3712

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0705	
	.6200	.0744	
	.7200	.0763	
	.8600	.0965	
	1.0000	.4165	
0.675	1.0000	.4204	
0.725	.5400	.0618	.0701
	.6200	.0671	.0689
	.7200	.0700	.0624
	.8600	.0500	-.0038
	1.0000	.4050	
0.825	.5400	.0547	.0484
	.6200	.0616	.0502
	.7200	.0559	.0384

BASE PRESSURES

ORIFICE NO.	CP
50	-.3967
51	-.3000
52	-.2929
53	-.2923

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= -.20

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1059
	.3400	.0411	
	.4000		.0975
	.5400	.0450	
	.6200	.0520	
	.6800	.0470	
	.7000		.0762
	.7200	.0416	
	.8600	.0151	
	.9250	.0074	.0308
	.9700	.0136	
	.9850	.0431	.0308
	1.0000	.3757	
0.550	0.0000	.0436	
	.1000	.0436	
	.1800	.0433	
	.2600	.0403	.1114
	.3400	.0405	
	.4000	.0349	.1045
	.4600	.0403	
	.5400	.0457	.1040
	.5800	.0485	
	.6200	.0527	.1026
	.6600	.0503	
	.6800	.0536	
	.7000	.0544	.0819
	.7200	.0468	
	.7400	.0398	
	.7800	.0308	.0665
	.8200	.0205	
	.8600	.0135	.0469
	.9000	.0114	.0382
	.9250	.0118	.0334
	.9500	.0052	.0312
	.9700	.0174	.0284
	.9850	.0321	.0591
	.9950	.2007	.1337
	1.0000	.4041	.3946
0.625	.5400	.0472	
	.6200	.0514	
	.7200	.0451	
	.8600	.0476	
	1.0000	.3945	
0.675	1.0000	.4143	
0.725	.5400	.0412	.0890
	.6200	.0462	.0936
	.7200	.0413	.0729
	.8600	.0123	.0386
	1.0000	.3897	
0.825	.5400	.0325	.0677
	.6200	.0405	.0750
	.7200	.0293	.0532

BASE PRESSURES

ORIFICE NO.	CP
50	-.3908
51	-.2558
52	-.2847
53	-.2897

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= .78

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1193
	.3400	.0239	
	.4000		.1119
	.5400	.0246	
	.6200	.0345	
	.6800	.0204	
	.7000		.1016
	.7200	.0123	
	.8600	-.0194	
	.9250	-.0494	.0720
	.9700	-.0577	
	.9850	-.0382	.0720
	1.0000	.3491	
0.550	0.0000	.0242	
	.1000	.0242	
	.1800	.0244	
	.2600	.0207	.1282
	.3400	.0229	
	.4000	.0260	.1206
	.4600	.0215	
	.5400	.0321	.1164
	.5800	.0386	
	.6200	.0323	.1146
	.6600	.0270	
	.6800	.0207	
	.7000	.0190	.1028
	.7200	.0095	
	.7400	.0038	
	.7800	-.0029	.0925
	.8200	-.0148	
	.8600	-.0235	.0782
	.9000	-.0343	.0772
	.9250	-.0452	.0777
	.9500	-.0580	.0828
	.9700	-.0545	.0950
	.9850	-.0285	.1315
	.9950	.1222	.2066
	1.0000	.3911	.4017
0.625	.5400	.0332	
	.6200	.0261	
	.7200	.0031	
	.8600	.0050	
	1.0000	.3760	
0.675	1.0000	.3973	
0.725	.5400	.0249	.1023
	.6200	.0326	.1028
	.7200	.0201	.0970
	.8600	-.0267	.0711
	1.0000	.3654	
0.825	.5400	.0141	.0860
	.6200	.0233	.0838
	.7200	.0103	.0735

BASE PRESSURES

ORIFICE NO.	CP
50	-.3942
51	-.2614
52	-.2922
53	-.2856

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 1.80

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1349
	.3400	.0098	
	.4000		.1261
	.5400	.0102	
	.6200	.0158	
	.6800	.0228	
	.7000		.1212
	.7200	-.0053	
	.8600	-.0696	
	.9250	-.1010	.1092
	.9700	-.1365	
	.9850	-.1211	.1092
	1.0000	.3117	
0.550	0.0000	.0137	
	.1000	.0137	
	.1800	.0091	
	.2600	.0129	.1467
	.3400	.0050	
	.4000	.0023	.1363
	.4600	.0081	
	.5400	.0125	.1383
	.5800	.0087	
	.6200	.0094	.1360
	.6600	.0158	
	.6800	.0156	
	.7000	.0098	.1320
	.7200	.0101	
	.7400	-.0010	
	.7800	-.0453	.1222
	.8200	-.0628	
	.8600	-.0729	.1159
	.9000	-.0898	.1202
	.9250	-.1076	.1265
	.9500	-.1351	.1357
	.9700	-.1362	.1529
	.9850	-.1145	.1924
	.9950	.0435	.2731
	1.0000	.3740	.4069

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0093	
	.6200	.0059	
	.7200	-.0096	
	.8600	-.0553	
	1.0000	.3506	
0.675	1.0000	.3802	
0.725	.5400	.0043	.1234
	.6200	.0105	.1245
	.7200	.0108	.1234
	.8600	-.0755	.1080
	1.0000	.3393	
0.825	.5400	-.0041	.1057
	.6200	.0011	.1080
	.7200	-.0077	.0994

BASE PRESSURES

ORIFICE NO.	CP
50	-.3984
51	-.2990
52	-.2874
53	-.2850

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 3.79

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1752
	.3400	-.0253	
	.4000		.1650
	.5400	-.0262	
	.6200	-.0210	
	.6800	-.0217	
	.7000		.1686
	.7200	-.0519	
	.8600	-.1826	
	.9250	-.1976	.1846
	.9700	-.2459	
	.9850	-.2444	.1846
	1.0000	.2546	
0.550	0.0000	-.0246	
	.1000	-.0246	
	.1800	-.0245	
	.2600	-.0250	.1873
	.3400	-.0282	
	.4000	-.0296	.1748
	.4600	-.0271	
	.5400	-.0192	.1809
	.5800	-.0184	
	.6200	-.0188	.1792
	.6600	-.0247	
	.6800	-.0270	
	.7000	-.0280	.1760
	.7200	-.0405	
	.7400	-.0541	
	.7800	-.1321	.1729
	.8200	-.1837	
	.8600	-.1889	.1761
	.9000	-.2130	.1832
	.9250	-.2309	.1963
	.9500	-.2473	.2154
	.9700	-.2523	.2416
	.9850	-.2437	.2928
	.9950	-.0607	.3644
	1.0000	.3360	.3939

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0266	
	.6200	-.0275	
	.7200	-.0341	
	.8600	-.1566	
	1.0000	.2974	
0.675	1.0000	.3345	
0.725	.5400	-.0302	.1634
	.6200	-.0290	.1709
	.7200	-.0287	.1716
	.8600	-.2021	.1715
	1.0000	.2317	
0.825	.5400	-.0424	.1425
	.6200	-.0345	.1482
	.7200	-.0475	.1431

BASE PRESSURES

ORIFICE NO.	CP
50	-.4033
51	-.3610
52	-.2909
53	-.2848

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 5.79

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2192
	.3400	-.0539	
	.4000		.2088
	.5400	-.0586	
	.6200	-.0766	
	.6800	-.1137	
	.7000		.2192
	.7200	-.1590	
	.8600	-.2654	
	.9250	-.2674	.2530
	.9700	-.3180	
	.9850	-.3203	.2530
	1.0000	.2024	
0.550	0.0000	-.0459	
	.1000	-.0459	
	.1800	-.0478	
	.2600	-.0499	.2315
	.3400	-.0535	
	.4000	-.0562	.2217
	.4600	-.0524	
	.5400	-.0520	.2305
	.5800	-.0600	
	.6200	-.0594	.2271
	.6600	-.0836	
	.6800	-.1123	
	.7000	-.1128	.2272
	.7200	-.1567	
	.7400	-.1809	
	.7800	-.1948	.2281
	.8200	-.2635	
	.8600	-.2727	.2385
	.9000	-.2902	.2478
	.9250	-.3097	.2638
	.9500	-.3249	.2843
	.9700	-.3270	.3133
	.9850	-.3161	.3652
	.9950	-.1432	.4228
	1.0000	.2895	.3554

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0661	
	.6200	-.0837	
	.7200	-.0980	
	.8600	-.2354	
	1.0000	.2393	
0.675	1.0000	.2850	
0.725	.5400	-.0644	.2060
	.6200	-.0686	.2097
	.7200	-.1380	.2157
	.8600	-.2777	.2288
	1.0000	.2195	
0.825	.5400	-.0792	.1856
	.6200	-.0661	.1956
	.7200	-.1463	.1934

BASE PRESSURES

ORIFICE NO.	CP
50	-.3904
51	-.3899
52	-.3168
53	-.2752

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 6.80

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2346
	.3400	-.0696	
	.4000		.2296
	.5400	-.0938	
	.6200	-.1287	
	.6800	-.1616	
	.7000		.2419
	.7200	-.2168	
	.8600	-.2945	
	.9250	-.2990	.2825
	.9700	-.3299	
	.9850	-.3511	.2825
	1.0000	.1710	
0.550	0.0000	-.0613	
	.1000	-.0613	
	.1800	-.0671	
	.2600	-.0641	.2457
	.3400	-.0689	
	.4000	-.0664	.2364
	.4600	-.0701	
	.5400	-.0795	.2438
	.5800	-.0845	
	.6200	-.1105	.2452
	.6600	-.1352	
	.6800	-.1600	
	.7000	-.1794	.2474
	.7200	-.2020	
	.7400	-.2261	
	.7800	-.2240	.2501
	.8200	-.2972	
	.8600	-.3062	.2647
	.9000	-.3221	.2790
	.9250	-.3391	.2953
	.9500	-.3560	.3194
	.9700	-.3606	.3516
	.9850	-.3622	.4011
	.9950	-.1800	.4512
	1.0000	.2673	.3379

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0680	
	.6200	-.1300	
	.7200	-.1418	
	.8600	-.2666	
	1.0000	.2137	
0.675	1.0000	.2503	
0.725	.5400	-.0874	.2279
	.6200	-.0924	.2366
	.7200	-.1940	.2444
	.8600	-.3152	.2614
	1.0000	.1798	
0.825	.5400	-.1026	.1998
	.6200	-.0849	.2165
	.7200	-.1786	.2152

BASE PRESSURES

ORIFICE NO.	CP
50	-.4039
51	-.3901
52	-.3115
53	-.2624

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 7.82

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2589
	.3400	-.0821	
	.4000		.2588
	.5400	-.1269	
	.6200	-.1840	
	.6800	-.2178	
	.7000		.2753
	.7200	-.2551	
	.8600	-.3201	
	.9250	-.3227	.3222
	.9700	-.3407	
	.9850	-.3776	.3222
	1.0000	.1458	
0.550	0.0000	-.0747	
	.1000	-.0747	
	.1800	-.0787	
	.2600	-.0838	.2732
	.3400	-.0815	
	.4000	-.0771	.2682
	.4600	-.0821	
	.5400	-.0990	.2693
	.5800	-.1169	
	.6200	-.1533	.2709
	.6600	-.1910	
	.6800	-.2191	
	.7000	-.2300	.2753
	.7200	-.2366	
	.7400	-.2589	
	.7800	-.2566	.2764
	.8200	-.3253	
	.8600	-.3369	.2940
	.9000	-.3441	.3085
	.9250	-.3560	.3253
	.9500	-.3749	.3484
	.9700	-.3856	.3819
	.9850	-.3806	.4274
	.9950	-.2123	.4691
	1.0000	.2437	.3104
0.625	.5400	-.1096	
	.6200	-.1821	
	.7200	-.1817	
	.8600	-.3023	
	1.0000	.1851	
0.675	1.0000	.2245	
0.725	.5400	-.1256	.2524
	.6200	-.1224	.2632
	.7200	-.2256	.2705
	.8600	-.3444	.2883
	1.0000	.1410	
0.825	.5400	-.1275	.2142
	.6200	-.1250	.2332
	.7200	-.2096	.2376

BASE PRESSURES

ORIFICE NO.	CP
50	-.4160
51	-.3933
52	-.3292
53	-.2630

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 8.79

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2798
	.3400	-.0919	
	.4000		.2714
	.5400	-.1668	
	.6200	-.2173	
	.6800	-.2555	
	.7000		.2909
	.7200	-.2842	
	.8600	-.3422	
	.9250	-.3420	.3408
	.9700	-.3514	
	.9850	-.3940	.3408
	1.0000	.1143	
0.550	0.0000	-.0869	
	.1000	-.0869	
	.1800	-.0885	
	.2600	-.0855	.2912
	.3400	-.0878	
	.4000	-.0849	.2916
	.4600	-.1023	
	.5400	-.1351	.2950
	.5800	-.1627	
	.6200	-.1947	.2955
	.6600	-.2317	
	.6800	-.2565	
	.7000	-.2611	.2980
	.7200	-.2719	
	.7400	-.2931	
	.7800	-.2774	.3035
	.8200	-.3461	
	.8600	-.3595	.3204
	.9000	-.3671	.3394
	.9250	-.3719	.3568
	.9500	-.3780	.3821
	.9700	-.4056	.4129
	.9850	-.4031	.4562
	.9950	-.2381	.4850
	1.0000	.2157	.2835
0.625	.5400	-.1573	
	.6200	-.2260	
	.7200	-.2248	
	.8600	-.3217	
	1.0000	.1554	
0.675	1.0000	.1966	
0.725	.5400	-.1735	.2818
	.6200	-.1679	.2949
	.7200	-.2487	.3039
	.8600	-.3730	.3203
	1.0000	.1142	
0.825	.5400	-.1610	.2324
	.6200	-.1777	.2559
	.7200	-.2441	.2702

BASE PRESSURES

ORIFICE NO.	CP
50	-.4232
51	-.3922
52	-.3377
53	-.2674

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(C) M= 1.70, RE/M= 6.6 MILLION.

ALPHA= -.17

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1016
	.3400	.0387	
	.4000		.0926
	.5400	.0479	
	.6200	.0534	
	.6800	.0468	
	.7000		.0744
	.7200	.0427	
	.8600	.0108	
	.9250	.0001	.0286
	.9700	.0196	
	.9850	.0489	.0286
	1.0000	.3816	
0.550	0.0000	.0352	
	.1000	.0352	
	.1800	.0349	
	.2600	.0396	.1067
	.3400	.0404	
	.4000	.0371	.0974
	.4600	.0429	
	.5400	.0448	.0972
	.5800	.0495	
	.6200	.0484	.0949
	.6600	.0504	
	.6800	.0428	
	.7000	.0469	.0747
	.7200	.0417	
	.7400	.0390	
	.7800	.0329	.0634
	.8200	.0232	
	.8600	.0105	.0430
	.9000	.0038	.0313
	.9250	.0043	.0316
	.9500	.0047	.0317
	.9700	.0138	.0388
	.9850	.0331	.0715
	.9950	.2012	.1385
	1.0000	.4031	.3939

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0525	
	.6200	.0517	
	.7200	.0404	
	.8600	.0478	
	1.0000	.4005	
0.675	1.0000	.4174	
0.725	.5400	.0398	.0746
	.6200	.0445	.0769
	.7200	.0348	.0598
	.8600	.0047	.0295
	1.0000	.3943	
0.825	.5400	.0279	.0741
	.6200	.0361	.0790
	.7200	.0247	.0583

BASE PRESSURES

ORIFICE NO.	CP
50	-.3707
51	-.2472
52	-.2648
53	-.2712

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(C) M= 1.70, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 1.83

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1394
	.3400	.0088	
	.4000		.1306
	.5400	.0086	
	.6200	.0211	
	.6800	.0182	
	.7000		.1266
	.7200	-.0278	
	.8600	-.0650	
	.9250	-.1014	.1159
	.9700	-.1084	
	.9850	-.0894	.1159
	1.0000	.3295	
0.550	0.0000	.0093	
	.1000	.0093	
	.1800	.0067	
	.2600	.0109	.1449
	.3400	.0092	
	.4000	.0088	.1305
	.4600	.0100	
	.5400	.0186	.1287
	.5800	.0214	
	.6200	.0193	.1290
	.6600	.0186	
	.6800	.0202	
	.7000	.0183	.1193
	.7200	-.0083	
	.7400	-.0354	
	.7800	-.0573	.1177
	.8200	-.0629	
	.8600	-.0743	.1094
	.9000	-.0974	.1096
	.9250	-.1108	.1185
	.9500	-.1194	.1287
	.9700	-.1099	.1481
	.9850	-.0956	.1868
	.9950	.0732	.2637
	1.0000	.3812	.4081

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0134	
	.6200	.0090	
	.7200	-.0075	
	.8600	-.0458	
	1.0000	.3655	
0.675	1.0000	.3887	
0.725	.5400	.0038	.1113
	.6200	.0103	.1133
	.7200	.0141	.1122
	.8600	-.0825	.0995
	1.0000	.3502	
0.825	.5400	-.0063	.1054
	.6200	.0006	.1101
	.7200	-.0023	.1043

BASE PRESSURES

ORIFICE NO.	CP
50	-.3743
51	-.2615
52	-.2644
53	-.2669

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(C) M= 1.70, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 3.84

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1762
	.3400	-.0217	
	.4000		.1689
	.5400	-.0224	
	.6200	-.0157	
	.6800	-.0288	
	.7000		.1712
	.7200	-.1160	
	.8600	-.1525	
	.9250	-.1770	.1811
	.9700	-.2068	
	.9850	-.1971	.1811
	1.0000	.2765	
0.550	0.0000	-.0143	
	.1000	-.0143	
	.1800	-.0175	
	.2600	-.0173	.1787
	.3400	-.0163	
	.4000	-.0176	.1663
	.4600	-.0212	
	.5400	-.0201	.1717
	.5800	-.0111	
	.6200	-.0147	.1709
	.6600	-.0210	
	.6800	-.0176	
	.7000	-.0369	.1729
	.7200	-.0814	
	.7400	-.1172	
	.7800	-.1400	.1729
	.8200	-.1666	
	.8600	-.1698	.1745
	.9000	-.1861	.1836
	.9250	-.1993	.1967
	.9500	-.2045	.2138
	.9700	-.2071	.2399
	.9850	-.1958	.2783
	.9950	-.0182	.3551
	1.0000	.3538	.3966

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0192	
	.6200	-.0192	
	.7200	-.0426	
	.8600	-.1268	
	1.0000	.3168	
0.675	1.0000	.3510	
0.725	.5400	-.0262	.1531
	.6200	-.0235	.1532
	.7200	-.0351	.1528
	.8600	-.1710	.1572
	1.0000	.3063	
0.825	.5400	-.0387	.1450
	.6200	-.0293	.1498
	.7200	-.0533	.1536

BASE PRESSURES

ORIFICE NO.	CP
50	-.3756
51	-.3034
52	-.2729
53	-.2657

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(C) M= 1.70, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 5.84

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2196
	.3400	-.0501	
	.4000		.2130
	.5400	-.0497	
	.6200	-.0844	
	.6800	-.1358	
	.7000		.2200
	.7200	-.1829	
	.8600	-.2224	
	.9250	-.2352	.2492
	.9700	-.2791	
	.9850	-.2733	.2492
	1.0000	.2246	
0.550	0.0000	-.0470	
	.1000	-.0470	
	.1800	-.0497	
	.2600	-.0482	.2231
	.3400	-.0537	
	.4000	-.0537	.2149
	.4600	-.0542	
	.5400	-.0521	.2203
	.5800	-.0589	
	.6200	-.0674	.2201
	.6600	-.0952	
	.6800	-.1164	
	.7000	-.1315	.2223
	.7200	-.1842	
	.7400	-.2128	
	.7800	-.1943	.2221
	.8200	-.2340	
	.8600	-.2435	.2279
	.9000	-.2585	.2402
	.9250	-.2718	.2552
	.9500	-.2799	.2748
	.9700	-.2820	.3062
	.9850	-.2700	.3547
	.9950	-.0989	.4153
	1.0000	.3086	.3737
0.625	.5400	-.0511	
	.6200	-.0759	
	.7200	-.1394	
	.8600	-.2059	
	1.0000	.2666	
0.675	1.0000	.3114	
0.725	.5400	-.0630	.2018
	.6200	-.0641	.2018
	.7200	-.1837	.2021
	.8600	-.2413	.2151
	1.0000	.2477	
0.825	.5400	-.0745	.1923
	.6200	-.0608	.2043
	.7200	-.1739	.2073

BASE PRESSURES

ORIFICE NO.	CP
50	-.3587
51	-.3634
52	-.2781
53	-.2531

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(D) M= 1.86, RE/M= 6.6 MILLION.

ALPHA= .06

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.0983
	.3400	.0335	
	.4000		.0925
	.5400	.0391	
	.6200	.0428	
	.6800	.0319	
	.7000		.0676
	.7200	.0262	
	.8600	-.0074	
	.9250	-.0160	.0313
	.9700	.0131	
	.9850	.0542	.0313
	1.0000	.3849	
0.550	0.0000	.0371	
	.1000	.0371	
	.1800	.0362	
	.2600	.0343	.0940
	.3400	.0340	
	.4000	.0354	.0904
	.4600	.0367	
	.5400	.0428	.0907
	.5800	.0435	
	.6200	.0435	.0865
	.6600	.0373	
	.6800	.0299	
	.7000	.0311	.0732
	.7200	.0321	
	.7400	.0279	
	.7800	.0171	.0597
	.8200	.0055	
	.8600	-.0023	.0381
	.9000	-.0089	.0332
	.9250	-.0042	.0335
	.9500	.0036	.0370
	.9700	.0294	.0471
	.9850	.0611	.0818
	.9950	.2145	.1589
	1.0000	.4199	.4070

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0458	
	.6200	.0458	
	.7200	.0232	
	.8600	.0273	
	1.0000	.4116	
0.675	1.0000	.4275	
0.725	.5400	.0420	.0793
	.6200	.0509	.0813
	.7200	.0254	.0552
	.8600	-.0093	.0281
	1.0000	.4096	
0.825	.5400	.0242	.0669
	.6200	.0416	.0712
	.7200	.0172	.0477

BASE PRESSURES

ORIFICE NO.	CP
50	-.3276
51	-.2424
52	-.2340
53	-.2451

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TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(D) M= 1.86, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 2.06

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1325
	.3400	.0067	
	.4000		.1270
	.5400	.0084	
	.6200	.0242	
	.6800	-.0472	
	.7000		.1188
	.7200	-.0510	
	.8600	-.0720	
	.9250	-.0882	.1083
	.9700	-.0669	
	.9850	-.0364	.1083
	1.0000	.3549	
0.550	0.0000	.0096	
	.1000	.0096	
	.1800	.0056	
	.2600	.0093	.1331
	.3400	.0110	
	.4000	.0085	.1193
	.4600	.0120	
	.5400	.0179	.1237
	.5800	.0188	
	.6200	.0208	.1235
	.6600	.0157	
	.6800	-.0173	
	.7000	-.0374	.1176
	.7200	-.0503	
	.7400	-.0523	
	.7800	-.0597	.1107
	.8200	-.0663	
	.8600	-.0810	.1030
	.9000	-.0905	.1061
	.9250	-.0862	.1150
	.9500	-.0805	.1307
	.9700	-.0636	.1517
	.9850	-.0347	.1934
	.9950	.1227	.2697
	1.0000	.4006	.4230

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0126	
	.6200	.0182	
	.7200	-.0485	
	.8600	-.0589	
	1.0000	.3830	
0.675	1.0000	.3961	
0.725	.5400	.0019	.1091
	.6200	.0071	.1108
	.7200	-.0497	.1042
	.8600	-.0893	.0919
	1.0000	.3671	
0.825	.5400	-.0085	.0930
	.6200	.0025	.0987
	.7200	-.0422	.0903

BASE PRESSURES

ORIFICE NO.	CP
50	-.3259
51	-.2627
52	-.2350
53	-.2433

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(D) M= 1.86, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 4.05

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1684
	.3400	-.0235	
	.4000		.1660
	.5400	-.0174	
	.6200	-.0485	
	.6800	-.1193	
	.7000		.1717
	.7200	-.1162	
	.8600	-.1255	
	.9250	-.1517	.1801
	.9700	-.1441	
	.9850	-.1250	.1801
	1.0000	.3129	
0.550	0.0000	-.0231	
	.1000	-.0231	
	.1800	-.0237	
	.2600	-.0223	.1729
	.3400	-.0208	
	.4000	-.0218	.1593
	.4600	-.0205	
	.5400	-.0170	.1606
	.5800	-.0116	
	.6200	-.0090	.1640
	.6600	-.0676	
	.6800	-.0942	
	.7000	-.1093	.1633
	.7200	-.1196	
	.7400	-.1200	
	.7800	-.1206	.1609
	.8200	-.1262	
	.8600	-.1383	.1604
	.9000	-.1509	.1727
	.9250	-.1530	.1852
	.9500	-.1493	.2021
	.9700	-.1466	.2318
	.9850	-.1259	.2808
	.9950	.0402	.3543
	1.0000	.3755	.4218

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0146	
	.6200	-.0208	
	.7200	-.1300	
	.8600	-.1233	
	1.0000	.3497	
0.675	1.0000	.3725	
0.725	.5400	-.0267	.1508
	.6200	-.0238	.1572
	.7200	-.1192	.1540
	.8600	-.1513	.1538
	1.0000	.3292	
0.825	.5400	-.0390	.1342
	.6200	-.0245	.1452
	.7200	-.1306	.1444

BASE PRESSURES

ORIFICE NO.	CP
50	-.3240
51	-.2838
52	-.2364
53	-.2374

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(D) M= 1.86, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 6.05

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2048
	.3400	-.0479	
	.4000		.2052
	.5400	-.0471	
	.6200	-.1406	
	.6800	-.1718	
	.7000		.2123
	.7200	-.1672	
	.8600	-.1797	
	.9250	-.2062	.2388
	.9700	-.2094	
	.9850	-.1943	.2388
	1.0000	.2688	
0.550	0.0000	-.0434	
	.1000	-.0434	
	.1800	-.0460	
	.2600	-.0445	.2138
	.3400	-.0471	
	.4000	-.0493	.2009
	.4600	-.0448	
	.5400	-.0451	.2025
	.5800	-.0580	
	.6200	-.0714	.2048
	.6600	-.1268	
	.6800	-.1740	
	.7000	-.1731	.2065
	.7200	-.1727	
	.7400	-.1747	
	.7800	-.1768	.2104
	.8200	-.1802	
	.8600	-.1880	.2175
	.9000	-.2041	.2339
	.9250	-.2106	.2499
	.9500	-.2152	.2718
	.9700	-.2109	.3067
	.9850	-.1964	.3554
	.9950	-.0335	.4172
	1.0000	.3423	.3972

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0668	
	.6200	-.1021	
	.7200	-.1787	
	.8600	-.1849	
	1.0000	.3042	
0.675	1.0000	.3383	
0.725	.5400	-.0614	.1918
	.6200	-.0730	.1976
	.7200	-.1790	.2021
	.8600	-.2057	.2055
	1.0000	.2877	
0.825	.5400	-.0687	.1758
	.6200	-.0857	.1858
	.7200	-.1909	.1881

BASE PRESSURES

ORIFICE NO.	CP
50	-.3107
51	-.3152
52	-.2419
53	-.2385

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(E) M= 2.00, RE/M= 6.6 MILLION.

ALPHA= -.29

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.0847
	.3400	.0357	
	.4000		.0766
	.5400	.0421	
	.6200	.0455	
	.6800	.0390	
	.7000		.0532
	.7200	.0325	
	.8600	.0015	
	.9250	.0136	.0098
	.9700	.0536	
	.9850	.0964	.0098
	1.0000	.4027	
0.550	0.0000	.0368	
	.1000	.0368	
	.1800	.0392	
	.2600	.0390	.0859
	.3400	.0352	
	.4000	.0364	.0776
	.4600	.0378	
	.5400	.0387	.0792
	.5800	.0400	
	.6200	.0417	.0814
	.6600	.0396	
	.6800	.0379	
	.7000	.0341	.0508
	.7200	.0309	
	.7400	.0289	
	.7800	.0193	.0393
	.8200	.0071	
	.8600	-.0001	.0180
	.9000	.0087	.0130
	.9250	.0198	.0152
	.9500	.0352	.0240
	.9700	.0569	.0358
	.9850	.0974	.0686
	.9950	.2440	.1487
	1.0000	.4251	.4024

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0449	
	.6200	.0423	
	.7200	.0267	
	.8600	-.0018	
	1.0000	.4210	
0.675	1.0000	.4371	
0.725	.5400	.0414	.0572
	.6200	.0510	.0623
	.7200	.0255	.0355
	.8600	-.0046	-.0016
	1.0000	.4186	
0.825	.5400	.0297	.0485
	.6200	.0384	.0516
	.7200	.0255	.0325

BASE PRESSURES

ORIFICE NO.	CP
50	-.2898
51	-.2418
52	-.2098
53	-.2245

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(E) M= 2.00, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 1.70

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1125
	.3400	.0067	
	.4000		.1053
	.5400	.0107	
	.6200	-.0141	
	.6800	-.0319	
	.7000		.1007
	.7200	-.0332	
	.8600	-.0623	
	.9250	-.0492	.0852
	.9700	-.0194	
	.9850	.0169	.0852
	1.0000	.3752	
0.550	0.0000	.0072	
	.1000	.0072	
	.1800	.0083	
	.2600	.0088	.1147
	.3400	.0106	
	.4000	.0095	.1066
	.4600	.0108	
	.5400	.0165	.1062
	.5800	.0194	
	.6200	.0223	.1053
	.6600	-.0022	
	.6800	-.0153	
	.7000	-.0217	.1004
	.7200	-.0324	
	.7400	-.0325	
	.7800	-.0419	.0909
	.8200	-.0576	
	.8600	-.0638	.0823
	.9000	-.0530	.0820
	.9250	-.0457	.0921
	.9500	-.0355	.1056
	.9700	-.0151	.1232
	.9850	.0167	.1659
	.9950	.1683	.2454
	1.0000	.4163	.4249

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0188	
	.6200	.0264	
	.7200	-.0384	
	.8600	-.0633	
	1.0000	.4045	
0.675	1.0000	.4164	
0.725	.5400	.0091	.0970
	.6200	.0165	.0975
	.7200	-.0429	.0884
	.8600	-.0692	.0673
	1.0000	.3898	
0.825	.5400	.0002	.0843
	.6200	.0071	.0867
	.7200	-.0409	.0849

BASE PRESSURES

ORIFICE NO.	CP
50	-.2921
51	-.2469
52	-.2157
53	-.2206

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(E) M= 2.00, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 3.72

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1510
	.3400	-.0224	
	.4000		.1483
	.5400	-.0138	
	.6200	-.0785	
	.6800	-.0860	
	.7000		.1522
	.7200	-.0853	
	.8600	-.1123	
	.9250	-.1054	.1608
	.9700	-.0842	
	.9850	-.0628	.1608
	1.0000	.3427	
0.550	0.0000	-.0178	
	.1000	-.0178	
	.1800	-.0179	
	.2600	-.0198	.1522
	.3400	-.0198	
	.4000	-.0233	.1429
	.4600	-.0236	
	.5400	-.0160	.1430
	.5800	-.0160	
	.6200	-.0338	.1442
	.6600	-.0645	
	.6800	-.0821	
	.7000	-.0871	.1443
	.7200	-.0894	
	.7400	-.0889	
	.7800	-.0912	.1402
	.8200	-.1042	
	.8600	-.1144	.1359
	.9000	-.1083	.1467
	.9250	-.1029	.1574
	.9500	-.0966	.1733
	.9700	-.0850	.1976
	.9850	-.0726	.2458
	.9950	.0921	.3190
	1.0000	.4010	.4193

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0061	
	.6200	-.0540	
	.7200	-.0955	
	.8600	-.1147	
	1.0000	.3783	
0.675	1.0000	.3979	
0.725	.5400	-.0138	.1302
	.6200	-.0201	.1322
	.7200	-.0939	.1319
	.8600	-.1165	.1230
	1.0000	.3596	
0.825	.5400	-.0273	.1213
	.6200	-.0266	.1243
	.7200	-.1071	.1247

BASE PRESSURES

ORIFICE NO.	CP
50	-.2860
51	-.2505
52	-.2111
53	-.2186

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TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(E) M= 2.00, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 5.69

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1897
	.3400	-.0449	
	.4000		.1874
	.5400	-.0624	
	.6200	-.1315	
	.6800	-.1323	
	.7000		.1959
	.7200	-.1311	
	.8600	-.1537	
	.9250	-.1564	.2241
	.9700	-.1455	
	.9850	-.1322	.2241
	1.0000	.3016	
0.550	0.0000	-.0415	
	.1000	-.0415	
	.1800	-.0405	
	.2600	-.0410	.1891
	.3400	-.0412	
	.4000	-.0414	.1830
	.4600	-.0398	
	.5400	-.0450	.1877
	.5800	-.0780	
	.6200	-.1021	.1907
	.6600	-.1195	
	.6800	-.1317	
	.7000	-.1320	.1867
	.7200	-.1324	
	.7400	-.1324	
	.7800	-.1359	.1884
	.8200	-.1445	
	.8600	-.1557	.1955
	.9000	-.1552	.2114
	.9250	-.1516	.2274
	.9500	-.1521	.2484
	.9700	-.1471	.2765
	.9850	-.1342	.3278
	.9950	.0274	.3948
	1.0000	.3683	.4197
0.625	.5400	-.0452	
	.6200	-.1246	
	.7200	-.1419	
	.8600	-.1608	
	1.0000	.3337	
0.675	1.0000	.3739	
0.725	.5400	-.0498	.1726
	.6200	-.1028	.1797
	.7200	-.1391	.1820
	.8600	-.1611	.1843
	1.0000	.3259	
0.825	.5400	-.0592	.1634
	.6200	-.0962	.1685
	.7200	-.1522	.1714

BASE PRESSURES

ORIFICE NO.	CP
50	-.2646
51	-.2831
52	-.2195
53	-.2201

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(F) M= 1.62, RE/M= 13.1 MILLION.

ALPHA= -.21

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1014
	.3400	.0407	
	.4000		.0908
	.5400	.0410	
	.6200	.0526	
	.6800	.0528	
	.7000		.0836
	.7200	.0515	
	.8600	.0102	
	.9250	.0072	.0111
	.9700	-.0107	
	.9850	.0533	.0111
	1.0000	.3738	
0.550	0.0000	.0306	
	.1000	.0306	
	.1800	.0379	
	.2600	.0518	.1015
	.3400	.0545	
	.4000	.0516	.1015
	.4600	.0459	
	.5400	.0451	.1033
	.5800	.0500	
	.6200	.0621	.0999
	.6600	.0578	
	.6800	.0511	
	.7000	.0494	.0844
	.7200	.0358	
	.7400	.0370	
	.7800	.0240	.0631
	.8200	.0134	
	.8600	.0101	.0383
	.9000	.0083	.0306
	.9250	.0037	.0195
	.9500	-.0039	.0229
	.9700	.0286	.0136
	.9850	.0155	.0507
	.9950	.1945	.1181
	1.0000	.3973	.3947

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0499	
	.6200	.0504	
	.7200	.0467	
	.8600	.0111	
	1.0000	.3889	
0.675	1.0000	.4029	
0.725	.5400	.0464	.0763
	.6200	.0473	.0879
	.7200	.0455	.0822
	.8600	.0086	.0351
	1.0000	.3839	
0.825	.5400	.0248	.0657
	.6200	.0409	.0637
	.7200	.0292	.0558

BASE PRESSURES

ORIFICE NO.	CP
50	-.3879
51	-.2811
52	-.2932
53	-.2909

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(F) M= 1.62, RE/M= 13.1 MILLION, CONTINUED.

ALPHA= 1.85

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1316
	.3400	.0062	
	.4000		.1273
	.5400	.0058	
	.6200	.0137	
	.6800	.0126	
	.7000		.1233
	.7200	.0122	
	.8600	-.0869	
	.9250	-.1228	.1069
	.9700	-.1471	
	.9850	-.1320	.1069
	1.0000	.3166	
0.550	0.0000	-.0021	
	.1000	-.0021	
	.1800	.0017	
	.2600	.0119	.1434
	.3400	.0193	
	.4000	.0163	.1368
	.4600	.0153	
	.5400	.0211	.1328
	.5800	.0286	
	.6200	.0251	.1332
	.6600	.0092	
	.6800	.0058	
	.7000	.0063	.1293
	.7200	-.0008	
	.7400	.0001	
	.7800	-.0096	.1189
	.8200	-.0589	
	.8600	-.0955	.1047
	.9000	-.1129	.1153
	.9250	-.1253	.1227
	.9500	-.1417	.1314
	.9700	-.1469	.1530
	.9850	-.1204	.1894
	.9950	.0277	.2713
	1.0000	.3669	.4047

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0135	
	.6200	.0121	
	.7200	.0068	
	.8600	-.0742	
	1.0000	.3470	
0.675	1.0000	.3677	
0.725	.5400	-.0029	.1227
	.6200	.0026	.1254
	.7200	-.0040	.1230
	.8600	-.0902	.1020
	1.0000	.3229	
0.825	.5400	-.0127	.1041
	.6200	-.0072	.1112
	.7200	-.0154	.1013

BASE PRESSURES

ORIFICE NO.	CP
50	-.4004
51	-.3164
52	-.2934
53	-.2870

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONTINUED.

(F) M= 1.62, RE/M= 13.1 MILLION, CONTINUED.

ALPHA= 3.84

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1670
	.3400	-.0267	
	.4000		.1629
	.5400	-.0311	
	.6200	-.0226	
	.6800	-.0292	
	.7000		.1703
	.7200	-.0324	
	.8600	-.2021	
	.9250	-.2195	.1805
	.9700	-.2533	
	.9850	-.2491	.1805
	1.0000	.2532	
0.550	0.0000	-.0169	
	.1000	-.0169	
	.1800	-.0317	
	.2600	-.0220	.1770
	.3400	-.0124	
	.4000	-.0307	.1715
	.4600	-.0164	
	.5400	-.0210	.1744
	.5800	-.0105	
	.6200	-.0084	.1794
	.6600	-.0295	
	.6800	-.0315	
	.7000	-.0354	.1801
	.7200	-.0384	
	.7400	-.0594	
	.7800	-.1005	.1719
	.8200	-.1965	
	.8600	-.2050	.1729
	.9000	-.2287	.1822
	.9250	-.2438	.1989
	.9500	-.2538	.2122
	.9700	-.2459	.2365
	.9850	-.2427	.2911
	.9950	-.0746	.3616
	1.0000	.3273	.3893

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0252	
	.6200	-.0252	
	.7200	-.0312	
	.8600	-.2188	
	1.0000	.2957	
0.675	1.0000	.3268	
0.725	.5400	-.0337	.1613
	.6200	-.0338	.1664
	.7200	-.0517	.1685
	.8600	-.2214	.1786
	1.0000	.2775	
0.825	.5400	-.0459	.1493
	.6200	-.0427	.1567
	.7200	-.0633	.1404

BASE PRESSURES

ORIFICE NO.	CP
50	-.4317
51	-.3175
52	-.3023
53	-.2661

TABLE B1.- FLAT WING PRESSURE DATA, FREE TRANSITION, CONCLUDED.

(F) M= 1.62, RE/M= 13.1 MILLION, CONCLUDED.

ALPHA= 5.84

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2189
	.3400	-.0552	
	.4000		.2145
	.5400	-.0642	
	.6200	-.0667	
	.6800	-.1121	
	.7000		.2269
	.7200	-.1365	
	.8600	-.2857	
	.9250	-.3053	.2483
	.9700	-.3370	
	.9850	-.3257	.2483
	1.0000	.1921	
0.550	0.0000	-.0426	
	.1000	-.0426	
	.1800	-.0483	
	.2600	-.0462	.2256
	.3400	-.0634	
	.4000	-.0662	.2117
	.4600	-.0462	
	.5400	-.0482	.2200
	.5800	-.0804	
	.6200	-.0724	.2252
	.6600	-.0761	
	.6800	-.0895	
	.7000	-.1095	.2253
	.7200	-.1423	
	.7400	-.1696	
	.7800	-.2052	.2272
	.8200	-.2842	
	.8600	-.2897	.2409
	.9000	-.3130	.2489
	.9250	-.3180	.2629
	.9500	-.3286	.2812
	.9700	-.3384	.3157
	.9850	-.3140	.3624
	.9950	-.1476	.4232
	1.0000	.2904	.3554

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0618	
	.6200	-.0644	
	.7200	-.0920	
	.8600	-.2906	
	1.0000	.2375	
0.675	1.0000	.2728	
0.725	.5400	-.0663	.2050
	.6200	-.0654	.2154
	.7200	-.1069	.2183
	.8600	-.3094	.2387
	1.0000	.2134	
0.825	.5400	-.0758	.1849
	.6200	-.0802	.1981
	.7200	-.1086	.1909

BASE PRESSURES

ORIFICE NO.	CP
50	-.4459
51	-.3938
52	-.3220
53	-.2706

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION.

(A) M= 1.60, RE/M= 6.6 MILLION.

ALPHA= -.18

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1046
	.3400	.0427	
	.4000		.1011
	.5400	.0433	
	.6200	.0501	
	.6800	.0530	
	.7000		.0776
	.7200	.0499	
	.8600	.0210	
	.9250	.0141	.0317
	.9700	.0234	
	.9850	.0470	.0317
	1.0000	.3789	
0.550	0.0000	.0394	
	.1000	.0394	
	.1800	.0385	
	.2600	.0385	.1112
	.3400	.0412	
	.4000	.0402	.0977
	.4600	.0445	
	.5400	.0502	.1013
	.5800	.0461	
	.6200	.0461	.0989
	.6600	.0503	
	.6800	.0490	
	.7000	.0475	.0747
	.7200	.0483	
	.7400	.0439	
	.7800	.0373	.0585
	.8200	.0262	
	.8600	.0170	.0403
	.9000	.0129	.0311
	.9250	.0197	.0298
	.9500	.0005	.0238
	.9700	.0138	.0309
	.9850	.0511	.0480
	.9950	.1924	.1270
	1.0000	.3954	.3907

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0481	
	.6200	.0472	
	.7200	.0435	
	.8600	.0167	
	1.0000	.3889	
0.675	1.0000	.4110	
0.725	.5400	.0323	.0812
	.6200	.0418	.0858
	.7200	.0441	.0700
	.8600	.0097	.0361
	1.0000	.3833	
0.825	.5400	.0227	.0688
	.6200	.0317	.0690
	.7200	.0245	.0474

BASE PRESSURES

ORIFICE NO.	CP
50	-.4030
51	-.2695
52	-.2820
53	-.2986

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 1.77

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1383
	.3400	.0103	
	.4000		.1271
	.5400	.0081	
	.6200	.0114	
	.6800	.0096	
	.7000		.1230
	.7200	.0035	
	.8600	-.0566	
	.9250	-.1207	.1079
	.9700	-.1262	
	.9850	-.1167	.1079
	1.0000	.3145	
0.550	0.0000	.0092	
	.1000	.0092	
	.1800	.0017	
	.2600	.0050	.1487
	.3400	.0047	
	.4000	.0046	.1347
	.4600	.0041	
	.5400	.0090	.1374
	.5800	.0117	
	.6200	.0179	.1388
	.6600	.0121	
	.6800	.0115	
	.7000	.0078	.1326
	.7200	.0023	
	.7400	-.0032	
	.7800	-.0134	.1205
	.8200	-.0317	
	.8600	-.0453	.1105
	.9000	-.0926	.1128
	.9250	-.1366	.1188
	.9500	-.1417	.1301
	.9700	-.1330	.1488
	.9850	-.1238	.1890
	.9950	.0399	.2667
	1.0000	.3673	.4025

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0115	
	.6200	.0097	
	.7200	-.0002	
	.8600	-.0530	
	1.0000	.3461	
0.675	1.0000	.3754	
0.725	.5400	-.0042	.1172
	.6200	.0046	.1198
	.7200	-.0025	.1157
	.8600	-.0522	.1062
	1.0000	.3369	
0.825	.5400	-.0111	.1049
	.6200	-.0056	.1044
	.7200	-.0192	.0915

BASE PRESSURES

ORIFICE NO.	CP
50	-.4081
51	-.2938
52	-.2919
53	-.2928

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 3.79

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1737
	.3400	-.0252	
	.4000		.1635
	.5400	-.0276	
	.6200	-.0288	
	.6800	-.0294	
	.7000		.1697
	.7200	-.0419	
	.8600	-.2069	
	.9250	-.2420	.1820
	.9700	-.2518	
	.9850	-.2532	.1820
	1.0000	.2546	
0.550	0.0000	-.0181	
	.1000	-.0181	
	.1800	-.0217	
	.2600	-.0253	.1866
	.3400	-.0271	
	.4000	-.0269	.1740
	.4600	-.0294	
	.5400	-.0241	.1773
	.5800	-.0256	
	.6200	-.0286	.1796
	.6600	-.0228	
	.6800	-.0272	
	.7000	-.0355	.1815
	.7200	-.0333	
	.7400	-.0480	
	.7800	-.0761	.1748
	.8200	-.1799	
	.8600	-.2113	.1724
	.9000	-.2420	.1799
	.9250	-.2486	.1935
	.9500	-.2535	.2122
	.9700	-.2630	.2370
	.9850	-.2582	.2868
	.9950	-.0724	.3555
	1.0000	.3253	.3876
0.625	.5400	-.0280	
	.6200	-.0311	
	.7200	-.0426	
	.8600	-.2156	
	1.0000	.2913	
0.675	1.0000	.3293	
0.725	.5400	-.0378	.1580
	.6200	-.0354	.1606
	.7200	-.0451	.1629
	.8600	-.2352	.1678
	1.0000	.2717	
0.825	.5400	-.0485	.1433
	.6200	-.0419	.1486
	.7200	-.0619	.1413

BASE PRESSURES

ORIFICE NO.	CP
50	-.4314
51	-.3479
52	-.3033
53	-.2935

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 5.80

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2121
	.3400	-.0555	
	.4000		.2071
	.5400	-.0553	
	.6200	-.0656	
	.6800	-.0725	
	.7000		.2184
	.7200	-.1838	
	.8600	-.2910	
	.9250	-.3258	.2510
	.9700	-.3382	
	.9850	-.3342	.2510
	1.0000	.1909	
0.550	0.0000	-.0510	
	.1000	-.0510	
	.1800	-.0509	
	.2600	-.0529	.2294
	.3400	-.0537	
	.4000	-.0604	.2210
	.4600	-.0559	
	.5400	-.0585	.2234
	.5800	-.0542	
	.6200	-.0604	.2281
	.6600	-.0599	
	.6800	-.0800	
	.7000	-.0788	.2286
	.7200	-.0903	
	.7400	-.1811	
	.7800	-.2155	.2267
	.8200	-.2897	
	.8600	-.3002	.2341
	.9000	-.3150	.2451
	.9250	-.3277	.2574
	.9500	-.3324	.2820
	.9700	-.3435	.3148
	.9850	-.3325	.3638
	.9950	-.1564	.4216
	1.0000	.2853	.3520

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0682	
	.6200	-.0720	
	.7200	-.0844	
	.8600	-.2984	
	1.0000	.2378	
0.675	1.0000	.2748	
0.725	.5400	-.0676	.2028
	.6200	-.0644	.2069
	.7200	-.1412	.2110
	.8600	-.2939	.2270
	1.0000	.2126	
0.825	.5400	-.0825	.1842
	.6200	-.0686	.1956
	.7200	-.1572	.1895

BASE PRESSURES

ORIFICE NO.	CP
50	-.4050
51	-.3914
52	-.3135
53	-.2811

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION.

ALPHA= -.23

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1036
	.3400	.0421	
	.4000		.0942
	.5400	.0437	
	.6200	.0493	
	.6800	.0529	
	.7000		.0713
	.7200	.0504	
	.8600	.0237	
	.9250	.0068	.0278
	.9700	.0287	
	.9850	.0567	.0278
	1.0000	.3816	
0.550	0.0000	.0407	
	.1000	.0407	
	.1800	.0368	
	.2600	.0345	.1060
	.3400	.0417	
	.4000	.0418	.0987
	.4600	.0424	
	.5400	.0443	.0982
	.5800	.0489	
	.6200	.0595	.0959
	.6600	.0483	
	.6800	.0516	
	.7000	.0570	.0712
	.7200	.0484	
	.7400	.0430	
	.7800	.0345	.0616
	.8200	.0263	
	.8600	.0157	.0391
	.9000	.0135	.0339
	.9250	.0182	.0283
	.9500	.0037	.0278
	.9700	.0222	.0293
	.9850	.0598	.0524
	.9950	.2052	.1318
	1.0000	.4061	.3957

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0541	
	.6200	.0531	
	.7200	.0523	
	.8600	.0224	
	1.0000	.3984	
0.675	1.0000	.4097	
0.725	.5400	.0368	.0872
	.6200	.0443	.0925
	.7200	.0436	.0706
	.8600	.0118	.0337
	1.0000	.3862	
0.825	.5400	.0297	.0611
	.6200	.0383	.0672
	.7200	.0302	.0490

BASE PRESSURES

ORIFICE NO.	CP
50	-.3971
51	-.2619
52	-.2728
53	-.2887

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= .79

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1172
	.3400	.0228	
	.4000		.1099
	.5400	.0239	
	.6200	.0281	
	.6800	.0268	
	.7000		.0993
	.7200	.0242	
	.8600	-.0136	
	.9250	-.0521	.0692
	.9700	-.0499	
	.9850	-.0315	.0692
	1.0000	.3524	
0.550	0.0000	.0228	
	.1000	.0228	
	.1800	.0227	
	.2600	.0277	.1239
	.3400	.0299	
	.4000	.0250	.1156
	.4600	.0276	
	.5400	.0328	.1134
	.5800	.0353	
	.6200	.0329	.1091
	.6600	.0318	
	.6800	.0274	
	.7000	.0283	.0980
	.7200	.0248	
	.7400	.0185	
	.7800	.0124	.0890
	.8200	-.0046	
	.8600	-.0149	.0717
	.9000	-.0247	.0734
	.9250	-.0499	.0746
	.9500	-.0716	.0817
	.9700	-.0476	.0913
	.9850	-.0241	.1297
	.9950	.1152	.2077
	1.0000	.3951	.4043

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0319	
	.6200	.0328	
	.7200	.0231	
	.8600	-.0124	
	1.0000	.3784	
0.675	1.0000	.3996	
0.725	.5400	.0224	.1059
	.6200	.0308	.1044
	.7200	.0251	.0968
	.8600	-.0190	.0730
	1.0000	.3714	
0.825	.5400	.0118	.0881
	.6200	.0182	.0864
	.7200	.0095	.0751

BASE PRESSURES

ORIFICE NO.	CP
50	-.3896
51	-.2552
52	-.2885
53	-.2866

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 1.78

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1342
	.3400	.0089	
	.4000		.1275
	.5400	.0085	
	.6200	.0119	
	.6800	.0110	
	.7000		.1227
	.7200	.0026	
	.8600	-.0634	
	.9250	-.1332	.1076
	.9700	-.1171	
	.9850	-.1141	.1076
	1.0000	.3156	
0.550	0.0000	.0077	
	.1000	.0077	
	.1800	.0069	
	.2600	.0077	.1453
	.3400	.0134	
	.4000	.0081	.1340
	.4600	.0046	
	.5400	.0113	.1362
	.5800	.0125	
	.6200	.0136	.1363
	.6600	.0059	
	.6800	.0062	
	.7000	.0041	.1295
	.7200	.0002	
	.7400	-.0053	
	.7800	-.0185	.1208
	.8200	-.0361	
	.8600	-.0520	.1109
	.9000	-.0979	.1122
	.9250	-.1347	.1180
	.9500	-.1379	.1291
	.9700	-.1148	.1493
	.9850	-.0991	.1923
	.9950	.0509	.2638
	1.0000	.3778	.4040

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0141	
	.6200	.0127	
	.7200	.0006	
	.8600	-.0490	
	1.0000	.3615	
0.675	1.0000	.3754	
0.725	.5400	.0032	.1167
	.6200	.0067	.1185
	.7200	.0014	.1187
	.8600	-.0522	.1004
	1.0000	.3374	
0.825	.5400	-.0055	.0991
	.6200	.0009	.0990
	.7200	-.0141	.0897

BASE PRESSURES

ORIFICE NO.	CP
50	-.4021
51	-.2773
52	-.2856
53	-.2853

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 3.77

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1707
	.3400	-.0261	
	.4000		.1637
	.5400	-.0266	
	.6200	-.0289	
	.6800	-.0286	
	.7000		.1689
	.7200	-.0398	
	.8600	-.1964	
	.9250	-.2328	.1809
	.9700	-.2409	
	.9850	-.2407	.1809
	1.0000	.2625	
0.550	0.0000	-.0236	
	.1000	-.0236	
	.1800	-.0255	
	.2600	-.0231	.1829
	.3400	-.0210	
	.4000	-.0252	.1707
	.4600	-.0263	
	.5400	-.0222	.1763
	.5800	-.0190	
	.6200	-.0214	.1752
	.6600	-.0272	
	.6800	-.0328	
	.7000	-.0392	.1712
	.7200	-.0338	
	.7400	-.0546	
	.7800	-.0834	.1675
	.8200	-.1797	
	.8600	-.2088	.1677
	.9000	-.2304	.1794
	.9250	-.2387	.1898
	.9500	-.2402	.2094
	.9700	-.2499	.2355
	.9850	-.2566	.2808
	.9950	-.0620	.3555
	1.0000	.3407	.3861

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0201	
	.6200	-.0216	
	.7200	-.0347	
	.8600	-.2149	
	1.0000	.3043	
0.675	1.0000	.3328	
0.725	.5400	-.0347	.1538
	.6200	-.0337	.1597
	.7200	-.0457	.1630
	.8600	-.2277	.1627
	1.0000	.2768	
0.825	.5400	-.0424	.1337
	.6200	-.0379	.1399
	.7200	-.0572	.1339

BASE PRESSURES

ORIFICE NO.	CP
50	-.4235
51	-.3359
52	-.2950
53	-.2848

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 5.78

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2115
	.3400	-.0540	
	.4000		.2071
	.5400	-.0532	
	.6200	-.0623	
	.6800	-.0734	
	.7000		.2182
	.7200	-.1717	
	.8600	-.2798	
	.9250	-.3126	.2497
	.9700	-.3243	
	.9850	-.3176	.2497
	1.0000	.2014	
0.550	0.0000	-.0497	
	.1000	-.0497	
	.1800	-.0475	
	.2600	-.0469	.2263
	.3400	-.0518	
	.4000	-.0307	.2155
	.4600	-.0530	
	.5400	-.0524	.2231
	.5800	-.0456	
	.6200	-.0638	.2255
	.6600	-.0603	
	.6800	-.0785	
	.7000	-.0888	.2256
	.7200	-.1162	
	.7400	-.1894	
	.7800	-.2134	.2273
	.8200	-.2765	
	.8600	-.2878	.2380
	.9000	-.3060	.2535
	.9250	-.3097	.2685
	.9500	-.3166	.2914
	.9700	-.3294	.3201
	.9850	-.3302	.3683
	.9950	-.1475	.4229
	1.0000	.2878	.3591

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0670	
	.6200	-.0662	
	.7200	-.0818	
	.8600	-.2892	
	1.0000	.2419	
0.675	1.0000	.2863	
0.725	.5400	-.0654	.2062
	.6200	-.0619	.2119
	.7200	-.1345	.2185
	.8600	-.2839	.2282
	1.0000	.2200	
0.825	.5400	-.0785	.1809
	.6200	-.0645	.1941
	.7200	-.1430	.1913

BASE PRESSURES

ORIFICE NO.	CP
50	-.3934
51	-.3869
52	-.3005
53	-.2750

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 6.78

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2283
	.3400	-.0724	
	.4000		.2237
	.5400	-.0718	
	.6200	-.0861	
	.6800	-.1619	
	.7000		.2385
	.7200	-.1970	
	.8600	-.3065	
	.9250	-.3408	.2808
	.9700	-.3599	
	.9850	-.3535	.2808
	1.0000	.1715	
0.550	0.0000	-.0638	
	.1000	-.0638	
	.1800	-.0679	
	.2600	-.0684	.2423
	.3400	-.0689	
	.4000	-.0711	.2347
	.4600	-.0673	
	.5400	-.0725	.2391
	.5800	-.0647	
	.6200	-.0906	.2440
	.6600	-.0878	
	.6800	-.1224	
	.7000	-.1316	.2449
	.7200	-.2113	
	.7400	-.2263	
	.7800	-.2488	.2468
	.8200	-.3096	
	.8600	-.3216	.2597
	.9000	-.3380	.2766
	.9250	-.3441	.2912
	.9500	-.3542	.3148
	.9700	-.3618	.3499
	.9850	-.3544	.4011
	.9950	-.1794	.4466
	1.0000	.2686	.3372

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0955	
	.6200	-.1070	
	.7200	-.1261	
	.8600	-.2952	
	1.0000	.2128	
0.675	1.0000	.2572	
0.725	.5400	-.0773	.2350
	.6200	-.0811	.2392
	.7200	-.2089	.2495
	.8600	-.3139	.2618
	1.0000	.1827	
0.825	.5400	-.0920	.2056
	.6200	-.0795	.2225
	.7200	-.1997	.2205

BASE PRESSURES

ORIFICE NO.	CP
50	-.4009
51	-.3803
52	-.2999
53	-.2656

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 8.81

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2742
	.3400	-.0781	
	.4000		.2690
	.5400	-.1004	
	.6200	-.1771	
	.6800	-.2189	
	.7000		.2863
	.7200	-.2755	
	.8600	-.3415	
	.9250	-.3608	.3407
	.9700	-.3883	
	.9850	-.3780	.3407
	1.0000	.1274	
0.550	0.0000	-.0741	
	.1000	-.0741	
	.1800	-.0774	
	.2600	-.0735	.2880
	.3400	-.0779	
	.4000	-.0763	.2829
	.4600	-.0740	
	.5400	-.0978	.2851
	.5800	-.1097	
	.6200	-.1511	.2904
	.6600	-.1694	
	.6800	-.2026	
	.7000	-.2307	.2911
	.7200	-.2725	
	.7400	-.2878	
	.7800	-.2856	.2986
	.8200	-.3404	
	.8600	-.3486	.3154
	.9000	-.3618	.3335
	.9250	-.3746	.3514
	.9500	-.3831	.3761
	.9700	-.3905	.4089
	.9850	-.3847	.4531
	.9950	-.2182	.4801
	1.0000	.2254	.2801

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1062	
	.6200	-.1641	
	.7200	-.2433	
	.8600	-.3100	
	1.0000	.1699	
0.675	1.0000	.2055	
0.725	.5400	-.1302	.2794
	.6200	-.1370	.2922
	.7200	-.3154	.3039
	.8600	-.3688	.3172
	1.0000	.1138	
0.825	.5400	-.1328	.2342
	.6200	-.1623	.2574
	.7200	-.2923	.2649

BASE PRESSURES

ORIFICE NO.	CP
50	-.4311
51	-.3955
52	-.3370
53	-.2703

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION. CONTINUED.

(C) M= 1.70, RE/M= 6.6 MILLION.

ALPHA= -.18

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.0989
	.3400	.0435	
	.4000		.0885
	.5400	.0476	
	.6200	.0536	
	.6800	.0595	
	.7000		.0698
	.7200	.0540	
	.8600	.0206	
	.9250	-.0009	.0231
	.9700	.0305	
	.9850	.0614	.0231
	1.0000	.3857	
0.550	0.0000	.0411	
	.1000	.0411	
	.1800	.0377	
	.2600	.0421	.1041
	.3400	.0465	
	.4000	.0478	.0916
	.4600	.0468	
	.5400	.0490	.0886
	.5800	.0504	
	.6200	.0514	.0859
	.6600	.0552	
	.6800	.0548	
	.7000	.0535	.0674
	.7200	.0596	
	.7400	.0515	
	.7800	.0405	.0577
	.8200	.0295	
	.8600	.0234	.0394
	.9000	.0183	.0299
	.9250	.0196	.0271
	.9500	-.0085	.0257
	.9700	.0254	.0330
	.9850	.0742	.0586
	.9950	.2015	.1368
	1.0000	.4031	.3925

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0550	
	.6200	.0459	
	.7200	.0360	
	.8600	.0172	
	1.0000	.4012	
0.675	1.0000	.4163	
0.725	.5400	.0318	.0673
	.6200	.0402	.0714
	.7200	.0419	.0543
	.8600	.0078	.0257
	1.0000	.4051	
0.825	.5400	.0201	.0680
	.6200	.0274	.0749
	.7200	.0232	.0539

BASE PRESSURES

ORIFICE NO.	CP
50	-.3845
51	-.2838
52	-.2563
53	-.2760

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(C) M= 1.70, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 1.83

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1312
	.3400	.0098	
	.4000		.1228
	.5400	.0100	
	.6200	.0149	
	.6800	.0105	
	.7000		.1189
	.7200	.0055	
	.8600	-.0855	
	.9250	-.1287	.1077
	.9700	-.0914	
	.9850	-.0850	.1077
	1.0000	.3323	
0.550	0.0000	.0173	
	.1000	.0173	
	.1800	.0112	
	.2600	.0120	.1371
	.3400	.0106	
	.4000	.0059	.1283
	.4600	.0052	
	.5400	.0085	.1272
	.5800	.0080	
	.6200	.0101	.1275
	.6600	.0055	
	.6800	.0056	
	.7000	.0098	.1237
	.7200	.0014	
	.7400	-.0019	
	.7800	-.0147	.1173
	.8200	-.0368	
	.8600	-.0731	.1106
	.9000	-.1237	.1134
	.9250	-.1285	.1127
	.9500	-.1177	.1262
	.9700	-.0956	.1405
	.9850	-.0685	.1804
	.9950	.0698	.2574
	1.0000	.3714	.4034

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0046	
	.6200	.0052	
	.7200	-.0116	
	.8600	-.0669	
	1.0000	.3596	
0.675	1.0000	.3854	
0.725	.5400	-.0005	.1025
	.6200	.0041	.1042
	.7200	-.0028	.1016
	.8600	-.0739	.0926
	1.0000	.3581	
0.825	.5400	-.0161	.1014
	.6200	-.0101	.1050
	.7200	-.0181	.0977

BASE PRESSURES

ORIFICE NO.	CP
50	-.3831
51	-.2522
52	-.2684
53	-.2710

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(C) M= 1.70, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 3.81

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1704
	.3400	-.0225	
	.4000		.1637
	.5400	-.0250	
	.6200	-.0236	
	.6800	-.0189	
	.7000		.1659
	.7200	-.0509	
	.8600	-.1799	
	.9250	-.2024	.1780
	.9700	-.1961	
	.9850	-.1954	.1780
	1.0000	.2745	
0.550	0.0000	-.0162	
	.1000	-.0162	
	.1800	-.0187	
	.2600	-.0155	.1731
	.3400	-.0215	
	.4000	-.0211	.1610
	.4600	-.0196	
	.5400	-.0197	.1659
	.5800	-.0189	
	.6200	-.0184	.1667
	.6600	-.0208	
	.6800	-.0224	
	.7000	-.0223	.1683
	.7200	-.0259	
	.7400	-.0538	
	.7800	-.1267	.1674
	.8200	-.1794	
	.8600	-.1915	.1677
	.9000	-.1998	.1782
	.9250	-.2024	.1904
	.9500	-.2027	.2058
	.9700	-.2050	.2288
	.9850	-.2000	.2728
	.9950	-.0170	.3456
	1.0000	.3465	.3882

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0201	
	.6200	-.0256	
	.7200	-.0376	
	.8600	-.1988	
	1.0000	.3188	
0.675	1.0000	.3428	
0.725	.5400	-.0374	.1404
	.6200	-.0358	.1400
	.7200	-.0521	.1403
	.8600	-.2082	.1473
	1.0000	.3043	
0.825	.5400	-.0477	.1346
	.6200	-.0405	.1411
	.7200	-.0605	.1394

BASE PRESSURES

ORIFICE NO.	CP
50	-.3888
51	-.3196
52	-.2767
53	-.2685

TABLE 82.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(C) M= 1.70, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 5.81

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2092
	.3400	-.0545	
	.4000		.2015
	.5400	-.0565	
	.6200	-.0792	
	.6800	-.0659	
	.7000		.2139
	.7200	-.1898	
	.8600	-.2374	
	.9250	-.2655	.2435
	.9700	-.2775	
	.9850	-.2683	.2435
	1.0000	.2290	
0.550	0.0000	-.0463	
	.1000	-.0463	
	.1800	-.0469	
	.2600	-.0481	.2199
	.3400	-.0513	
	.4000	-.0517	.2092
	.4600	-.0480	
	.5400	-.0546	.2117
	.5800	-.0516	
	.6200	-.0466	.2073
	.6600	-.0802	
	.6800	-.1003	
	.7000	-.0907	.2077
	.7200	-.1574	
	.7400	-.1991	
	.7800	-.2213	.2086
	.8200	-.2301	
	.8600	-.2418	.2148
	.9000	-.2634	.2192
	.9250	-.2701	.2373
	.9500	-.2744	.2625
	.9700	-.2789	.2821
	.9850	-.2729	.3216
	.9950	-.1004	.3797
	1.0000	.3089	.3598

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0478	
	.6200	-.0599	
	.7200	-.1958	
	.8600	-.2560	
	1.0000	.2663	
0.675	1.0000	.2611	
0.725	.5400	-.0688	.2080
	.6200	-.0696	.2010
	.7200	-.0895	.2132
	.8600	.0140	.2566
	1.0000	.2617	
0.825	.5400	-.0768	.3152
	.6200	-.0895	.1976
	.7200	-.1203	.2070

BASE PRESSURES

ORIFICE NO.	CP
50	-.1982
51	-.2616
52	-.2703
53	-.2458

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(D) M= 1.86, RE/M= 6.6 MILLION.

ALPHA= -.18

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1100
	.3400	.0389	
	.4000		.0951
	.5400	.0419	
	.6200	.0510	
	.6800	.0493	
	.7000		.0700
	.7200	.0424	
	.8600	.0038	
	.9250	-.0066	.0287
	.9700	.0359	
	.9850	.0724	.0287
	1.0000	.3951	
0.550	0.0000	.0432	
	.1000	.0432	
	.1800	.0420	
	.2600	.0435	.0991
	.3400	.0431	
	.4000	.0431	.0957
	.4600	.0459	
	.5400	.0500	.0980
	.5800	.0577	
	.6200	.0564	.0933
	.6600	.0564	
	.6800	.0550	
	.7000	.0513	.0850
	.7200	.0450	
	.7400	.0424	
	.7800	.0327	.0732
	.8200	.0167	
	.8600	.0095	.0604
	.9000	.0008	.0463
	.9250	.0017	.0363
	.9500	-.0038	.0357
	.9700	.0253	.0450
	.9850	.0739	.0637
	.9950	.2210	.4203
	1.0000	.4224	.0328
0.625	.5400	.0480	
	.6200	.0503	
	.7200	.0427	
	.8600	.0069	
	1.0000	.4156	
0.675	1.0000	.4123	
0.725	.5400	.0571	.0488
	.6200	.0731	.0814
	.7200	.1063	.0760
	.8600	.1859	.0482
	1.0000	.4092	
0.825	.5400	.0418	.4297
	.6200	.0477	.0691
	.7200	.0499	.0706

BASE PRESSURES

ORIFICE NO.	CP
50	-.1003
51	-.1593
52	-.1848
53	-.2174

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(D) M= 1.86, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 1.81

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1339
	.3400	.0120	
	.4000		.1261
	.5400	.0087	
	.6200	.0146	
	.6800	.0085	
	.7000		.1104
	.7200	.0011	
	.8600	-.0990	
	.9250	-.0872	.0986
	.9700	-.0420	
	.9850	-.0204	.0986
	1.0000	.3630	
0.550	0.0000	.0126	
	.1000	.0126	
	.1800	.0110	
	.2600	.0137	.1253
	.3400	.0117	
	.4000	.0118	.1169
	.4600	.0142	
	.5400	.0131	.1185
	.5800	.0144	
	.6200	.0145	.1207
	.6600	.0133	
	.6800	.0091	
	.7000	.0066	.1133
	.7200	.0009	
	.7400	-.0020	
	.7800	-.0317	.1062
	.8200	-.0948	
	.8600	-.0974	.1025
	.9000	-.0898	.0962
	.9250	-.0817	.1020
	.9500	-.0644	.1164
	.9700	-.0599	.1366
	.9850	-.0313	.1616
	.9950	.1351	.4168
	1.0000	.4099	.0834

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0164	
	.6200	.0177	
	.7200	.0056	
	.8600	-.0925	
	1.0000	.3954	
0.675	1.0000	.3767	
0.725	.5400	.0163	.0839
	.6200	.0299	.1026
	.7200	.0558	.1042
	.8600	.1249	.0962
	1.0000	.3634	
0.825	.5400	.0033	.4023
	.6200	.0050	.0928
	.7200	.0052	.0954

BASE PRESSURES

ORIFICE NO.	CP
50	-.1215
51	-.1737
52	-.1938
53	-.2120

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(D) M= 1.86, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 3.80

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1631
	.3400	-.0141	
	.4000		.1593
	.5400	-.0178	
	.6200	-.0201	
	.6800	-.0165	
	.7000		.1504
	.7200	-.0983	
	.8600	-.1462	
	.9250	-.1432	.1591
	.9700	-.1298	
	.9850	-.1138	.1591
	1.0000	.3132	
0.550	0.0000	-.0114	
	.1000	-.0114	
	.1800	-.0112	
	.2600	-.0146	.1601
	.3400	-.0149	
	.4000	-.0145	.1532
	.4600	-.0121	
	.5400	-.0106	.1517
	.5800	-.0094	
	.6200	-.0107	.1562
	.6600	-.0145	
	.6800	-.0437	
	.7000	-.0702	.1525
	.7200	-.1076	
	.7400	-.1140	
	.7800	-.1213	.1507
	.8200	-.1422	
	.8600	-.1490	.1469
	.9000	-.1435	.1617
	.9250	-.1402	.1747
	.9500	-.1384	.1818
	.9700	-.1306	.1994
	.9850	-.1210	.2449
	.9950	.0364	.4181
	1.0000	.3782	.1318
0.625	.5400	-.0151	
	.6200	-.0154	
	.7200	-.0767	
	.8600	-.1522	
	1.0000	.3541	
0.675	1.0000	.3253	
0.725	.5400	-.0239	.1255
	.6200	-.0212	.1298
	.7200	-.0043	.1373
	.8600	.0770	.1317
	1.0000	.3201	
0.825	.5400	-.0445	.3661
	.6200	-.0432	.1178
	.7200	-.0530	.1302

BASE PRESSURES

ORIFICE NO.	CP
50	-.1530
51	-.2067
52	-.2219
53	-.2295

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(D) M= 1.86, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 5.80

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1968
	.3400	-.0448	
	.4000		.1926
	.5400	-.0441	
	.6200	-.0727	
	.6800	-.1507	
	.7000		.1966
	.7200	-.1684	
	.8600	-.1994	
	.9250	-.2039	.2211
	.9700	-.1972	
	.9850	-.1868	.2211
	1.0000	.2730	
0.550	0.0000	-.0427	
	.1000	-.0427	
	.1800	-.0422	
	.2600	-.0432	.1956
	.3400	-.0441	
	.4000	-.0458	.1931
	.4600	-.0441	
	.5400	-.0451	.1903
	.5800	-.0390	
	.6200	-.0321	.1879
	.6600	-.0955	
	.6800	-.1516	
	.7000	-.1754	.1910
	.7200	-.1700	
	.7400	-.1719	
	.7800	-.1725	.1896
	.8200	-.1792	
	.8600	-.1919	.1909
	.9000	-.1986	.2014
	.9250	-.1989	.2165
	.9500	-.2018	.2354
	.9700	-.1996	.2693
	.9850	-.1879	.3114
	.9950	-.0312	.3925
	1.0000	.3305	.1856

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0467	
	.6200	-.0598	
	.7200	-.1870	
	.8600	-.2019	
	1.0000	.3136	
0.675	1.0000	.2842	
0.725	.5400	-.0640	.1712
	.6200	-.0746	.1736
	.7200	-.0691	.1811
	.8600	.0325	.1873
	1.0000	.2714	
0.825	.5400	-.0828	.3346
	.6200	-.0960	.1594
	.7200	-.1174	.1755

BASE PRESSURES

ORIFICE NO.	CP
50	-.1736
51	-.2269
52	-.2368
53	-.2392

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(E) M= 2.00, RE/M= 6.6 MILLION.

ALPHA= -.30

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.0763
	.3400	.0426	
	.4000		.0678
	.5400	.0471	
	.6200	.0547	
	.6800	.0538	
	.7000		.0402
	.7200	.0493	
	.8600	.0094	
	.9250	.0148	-.0110
	.9700	.0696	
	.9850	.1111	-.0110
	1.0000	.4132	
0.550	0.0000	.0397	
	.1000	.0397	
	.1800	.0403	
	.2600	.0413	.0792
	.3400	.0418	
	.4000	.0412	.0819
	.4600	.0418	
	.5400	.0455	.0795
	.5800	.0475	
	.6200	.0465	.0828
	.6600	.0524	
	.6800	.0519	
	.7000	.0490	.0619
	.7200	.0471	
	.7400	.0468	
	.7800	.0328	.0485
	.8200	.0208	
	.8600	.0082	.0277
	.9000	.0156	.0120
	.9250	.0244	.0033
	.9500	.0274	.0041
	.9700	.0748	.0261
	.9850	.1011	.0443
	.9950	.2520	.4026
	1.0000	.4358	-.0183

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0475	
	.6200	.0435	
	.7200	.0331	
	.8600	.0128	
	1.0000	.4285	
0.675	1.0000	.4146	
0.725	.5400	.0533	.0287
	.6200	.0734	.0512
	.7200	.1035	.0612
	.8600	.1888	.0296
	1.0000	.4098	
0.825	.5400	.0327	.4291
	.6200	.0396	.0424
	.7200	.0420	.0488

BASE PRESSURES

ORIFICE NO.	CP
50	-.0898
51	-.1483
52	-.1737
53	-.2118

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(E) M= 2.00, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 1.72

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1093
	.3400	.0114	
	.4000		.0985
	.5400	.0114	
	.6200	.0191	
	.6800	.0104	
	.7000		.0918
	.7200	.0032	
	.8600	-.0682	
	.9250	-.0517	.0700
	.9700	.0009	
	.9850	.0288	.0700
	1.0000	.3776	
0.550	0.0000	.0150	
	.1000	.0150	
	.1800	.0131	
	.2600	.0145	.1089
	.3400	.0136	
	.4000	.0101	.1055
	.4600	.0099	
	.5400	.0108	.1011
	.5800	.0121	
	.6200	.0149	.0998
	.6600	.0117	
	.6800	.0096	
	.7000	.0044	.1006
	.7200	.0021	
	.7400	-.0057	
	.7800	-.0507	.0916
	.8200	-.0729	
	.8600	-.0648	.0811
	.9000	-.0537	.0805
	.9250	-.0436	.0821
	.9500	-.0243	.0892
	.9700	-.0205	.1051
	.9850	.0110	.1300
	.9950	.1746	.4142
	1.0000	.4258	.0485

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	.0176	
	.6200	.0166	
	.7200	.0043	
	.8600	-.0619	
	1.0000	.4107	
0.675	1.0000	.3869	
0.725	.5400	.0148	.0713
	.6200	.0337	.0865
	.7200	.0558	.0825
	.8600	.1378	.0791
	1.0000	.3585	
0.825	.5400	-.0045	.4123
	.6200	.0008	.0744
	.7200	-.0005	.0770

BASE PRESSURES

ORIFICE NO.	CP
50	-.1104
51	-.1609
52	-.1807
53	-.2074

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(E) M= 2.00, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 3.72

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1454
	.3400	-.0145	
	.4000		.1398
	.5400	-.0169	
	.6200	-.0170	
	.6800	-.0489	
	.7000		.1374
	.7200	-.0859	
	.8600	-.1126	
	.9250	-.0955	.1461
	.9700	-.0735	
	.9850	-.0570	.1461
	1.0000	.3437	
0.550	0.0000	-.0108	
	.1000	-.0108	
	.1800	-.0105	
	.2600	-.0112	.1444
	.3400	-.0133	
	.4000	-.0146	.1446
	.4600	-.0129	
	.5400	-.0130	.1445
	.5800	-.0133	
	.6200	-.0140	.1426
	.6600	-.0332	
	.6800	-.0465	
	.7000	-.0593	.1422
	.7200	-.0919	
	.7400	-.0972	
	.7800	-.1118	.1409
	.8200	-.1173	
	.8600	-.1119	.1366
	.9000	-.1006	.1440
	.9250	-.0974	.1509
	.9500	-.0883	.1585
	.9700	-.0845	.1792
	.9850	-.0668	.2118
	.9950	.0983	.4209
	1.0000	.4015	.1117
0.625	.5400	-.0145	
	.6200	-.0129	
	.7200	-.1014	
	.8600	-.1112	
	1.0000	.3737	
0.675	1.0000	.3593	
0.725	.5400	-.0097	.1203
	.6200	-.0016	.1246
	.7200	.0108	.1263
	.8600	.1143	.1264
	1.0000	.3344	
0.825	.5400	-.0354	.3954
	.6200	-.0390	.1146
	.7200	-.0515	.1167

BASE PRESSURES

ORIFICE NO.	CP
50	-.1257
51	-.1715
52	-.1876
53	-.2072

TABLE B2.- FLAT WING PRESSURE DATA, FIXED TRANSITION, CONCLUDED.

(E) M= 2.00, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 5.71

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1887
	.3400	-.0360	
	.4000		.1823
	.5400	-.0345	
	.6200	-.0805	
	.6800	-.1288	
	.7000		.1895
	.7200	-.1363	
	.8600	-.1551	
	.9250	-.1527	.2164
	.9700	-.1369	
	.9850	-.1248	.2164
	1.0000	.3071	
0.550	0.0000	-.0335	
	.1000	-.0335	
	.1800	-.0347	
	.2600	-.0360	.1878
	.3400	-.0375	
	.4000	-.0398	.1860
	.4600	-.0398	
	.5400	-.0385	.1891
	.5800	-.0351	
	.6200	-.0523	.1875
	.6600	-.0916	
	.6800	-.1111	
	.7000	-.1231	.1892
	.7200	-.1344	
	.7400	-.1347	
	.7800	-.1435	.1879
	.8200	-.1551	
	.8600	-.1566	.1979
	.9000	-.1527	.1965
	.9250	-.1490	.2080
	.9500	-.1455	.2297
	.9700	-.1416	.2536
	.9850	-.1313	.2939
	.9950	.0300	.4099
	1.0000	.3758	.1705

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0323	
	.6200	-.0913	
	.7200	-.1479	
	.8600	-.1552	
	1.0000	.3399	
0.675	1.0000	.3182	
0.725	.5400	-.0507	.1571
	.6200	-.0563	.1614
	.7200	-.0292	.1650
	.8600	.0791	.1671
	1.0000	.2844	
0.825	.5400	-.0722	.3615
	.6200	-.0843	.1506
	.7200	-.0931	.1539

BASE PRESSURES

ORIFICE NO.	CP
50	-.1434
51	-.1880
52	-.1997
53	-.2103

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION.

(A) M= 1.60, RE/M= 6.6 MILLION.

ALPHA= 5.88

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1954
	.3400	-.0446	
	.4000		.2033
	.5400	-.0676	
	.6200	-.0688	
	.6800	-.0655	
	.7000		.1971
	.7200	-.0598	
	.8600	-.0280	
	.9250	-.0216	.1187
	.9700	-.0168	
	.9850	.0528	.1187
	1.0000	.4062	
0.550	0.0000	-.0241	
	.1000	-.0241	
	.1800	-.0284	
	.2600	-.0315	.2107
	.3400	-.0310	
	.4000	-.0416	.2141
	.4600	-.0529	
	.5400	-.0686	.2187
	.5800	-.0713	
	.6200	-.0709	.2180
	.6600	-.0629	
	.6800	-.0577	
	.7000	-.0561	.2016
	.7200	-.0468	
	.7400	-.0488	
	.7800	-.0453	.1676
	.8200	-.0324	
	.8600	-.0265	.1475
	.9000	-.0196	.1349
	.9250	-.0177	.1274
	.9500	-.0005	.1233
	.9700	.0015	.1149
	.9850	.0464	.1065
	.9950	.1867	.3352
	1.0000	.4363	.4317
0.625	.5400	-.0650	
	.6200	-.0595	
	.7200	-.0430	
	.8600	-.0161	
	1.0000	.3965	
0.675	1.0000	.3867	
0.725	.5400	-.0769	.1710
	.6200	-.0734	.1648
	.7200	-.0432	.1539
	.8600	-.0080	.0883
	1.0000	.4013	
0.825	.5400	-.0750	.1226
	.6200	-.0733	.1276
	.7200	-.0456	.1151

BASE PRESSURES

ORIFICE NO.	CP
50	-.3704
51	-.2923
52	-.3056
53	-.2925

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 7.90

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2481
	.3400	-.0749	
	.4000		.2559
	.5400	-.1046	
	.6200	-.1140	
	.6800	-.1146	
	.7000		.2386
	.7200	-.1083	
	.8600	-.1024	
	.9250	-.1261	.2052
	.9700	-.1093	
	.9850	-.0405	.2052
	1.0000	.3592	
0.550	0.0000	-.0522	
	.1000	-.0522	
	.1800	-.0590	
	.2600	-.0660	.2672
	.3400	-.0730	
	.4000	-.0851	.2723
	.4600	-.0970	
	.5400	-.1119	.2763
	.5800	-.1153	
	.6200	-.1150	.2718
	.6600	-.1152	
	.6800	-.1118	
	.7000	-.1081	.2496
	.7200	-.1016	
	.7400	-.1008	
	.7800	-.0941	.2358
	.8200	-.0911	
	.8600	-.1033	.2117
	.9000	-.1167	.2094
	.9250	-.1218	.2099
	.9500	-.1228	.2202
	.9700	-.1018	.2305
	.9850	-.0665	.2647
	.9950	.0796	.4328
	1.0000	.4020	.4182

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1125	
	.6200	-.1123	
	.7200	-.1055	
	.8600	-.0916	
	1.0000	.3271	
0.675	1.0000	.3387	
0.725	.5400	-.1159	.2232
	.6200	-.1169	.2186
	.7200	-.0993	.1981
	.8600	-.0839	.1555
	1.0000	.3541	
0.825	.5400	-.1184	.1612
	.6200	-.1218	.1742
	.7200	-.1011	.1602

BASE PRESSURES

ORIFICE NO.	CP
50	-.4001
51	-.2864
52	-.3075
53	-.2931

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 8.91

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2645
	.3400	-.0914	
	.4000		.2712
	.5400	-.1252	
	.6200	-.1402	
	.6800	-.1420	
	.7000		.2634
	.7200	-.1368	
	.8600	-.1513	
	.9250	-.1657	.2374
	.9700	-.1334	
	.9850	-.0896	.2374
	1.0000	.3261	
0.550	0.0000	-.0638	
	.1000	-.0638	
	.1800	-.0703	
	.2600	-.0772	.2838
	.3400	-.0771	
	.4000	-.0920	.2909
	.4600	-.1056	
	.5400	-.1266	.2947
	.5800	-.1335	
	.6200	-.1363	.2984
	.6600	-.1403	
	.6800	-.1405	
	.7000	-.1361	.2777
	.7200	-.1276	
	.7400	-.1277	
	.7800	-.1349	.2649
	.8200	-.1508	
	.8600	-.1510	.2497
	.9000	-.1691	.2550
	.9250	-.1667	.2639
	.9500	-.1589	.2795
	.9700	-.1329	.3022
	.9850	-.1176	.3525
	.9950	.0248	.4847
	1.0000	.3777	.4188
0.625	.5400	-.1292	
	.6200	-.1326	
	.7200	-.1270	
	.8600	-.1524	
	1.0000	.2996	
0.675	1.0000	.3103	
0.725	.5400	-.1316	.2510
	.6200	-.1373	.2508
	.7200	-.1246	.2366
	.8600	-.1423	.1970
	1.0000	.3344	
0.825	.5400	-.1349	.1780
	.6200	-.1444	.1898
	.7200	-.1252	.1848

BASE PRESSURES

ORIFICE NO.	CP
50	-.4072
51	-.2846
52	-.3054
53	-.2859

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 9.91

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2991
	.3400	-.1019	
	.4000		.3049
	.5400	-.1421	
	.6200	-.1624	
	.6800	-.1708	
	.7000		.3029
	.7200	-.1806	
	.8600	-.1918	
	.9250	-.2037	.2882
	.9700	-.1700	
	.9850	-.1420	.2882
	1.0000	.2893	
0.550	0.0000	-.0765	
	.1000	-.0765	
	.1800	-.0860	
	.2600	-.0899	.3165
	.3400	-.0977	
	.4000	-.1108	.3217
	.4600	-.1252	
	.5400	-.1505	.3249
	.5800	-.1591	
	.6200	-.1628	.3268
	.6600	-.1711	
	.6800	-.1680	
	.7000	-.1696	.3108
	.7200	-.1724	
	.7400	-.1779	
	.7800	-.1840	.2980
	.8200	-.1857	
	.8600	-.1868	.2863
	.9000	-.2008	.2868
	.9250	-.1922	.2962
	.9500	-.1879	.3131
	.9700	-.1779	.3433
	.9850	-.1604	.3926
	.9950	-.0175	.4972
	1.0000	.3580	.3875

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1487	
	.6200	-.1578	
	.7200	-.1696	
	.8600	-.1887	
	1.0000	.2700	
0.675	1.0000	.2801	
0.725	.5400	-.1481	.2690
	.6200	-.1574	.2688
	.7200	-.1629	.2557
	.8600	-.1840	.2162
	1.0000	.3103	
0.825	.5400	-.1511	.1933
	.6200	-.1616	.2082
	.7200	-.1614	.2044

BASE PRESSURES

ORIFICE NO.	CP
50	-.3986
51	-.3176
52	-.3146
53	-.2833

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 10.89

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.3144
	.3400	-.1147	
	.4000		.3229
	.5400	-.1657	
	.6200	-.1955	
	.6800	-.2225	
	.7000		.3254
	.7200	-.2229	
	.8600	-.2226	
	.9250	-.2364	.3174
	.9700	-.2147	
	.9850	-.1867	.3174
	1.0000	.2573	
0.550	0.0000	-.0845	
	.1000	-.0845	
	.1800	-.0912	
	.2600	-.0999	.3349
	.3400	-.1146	
	.4000	-.1258	.3377
	.4600	-.1413	
	.5400	-.1643	.3424
	.5800	-.1808	
	.6200	-.1913	.3410
	.6600	-.2156	
	.6800	-.2167	
	.7000	-.2171	.3343
	.7200	-.2110	
	.7400	-.2151	
	.7800	-.2224	.3229
	.8200	-.2227	
	.8600	-.2259	.3148
	.9000	-.2291	.3240
	.9250	-.2251	.3369
	.9500	-.2294	.3568
	.9700	-.2247	.3988
	.9850	-.2129	.4494
	.9950	-.0709	.5363
	1.0000	.3228	.3767

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1646	
	.6200	-.1931	
	.7200	-.2131	
	.8600	-.2161	
	1.0000	.2318	
0.675	1.0000	.2484	
0.725	.5400	-.1652	.2936
	.6200	-.1957	.2982
	.7200	-.2067	.2893
	.8600	-.2126	.2569
	1.0000	.2802	
0.825	.5400	-.1700	.2082
	.6200	-.1965	.2196
	.7200	-.2104	.2264

BASE PRESSURES

ORIFICE NO.	CP
50	-.4007
51	-.3574
52	-.3284
53	-.2764

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(A) M= 1.60, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 11.93

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.3558
	.3400	-.1213	
	.4000		.3646
	.5400	-.1966	
	.6200	-.2436	
	.6800	-.2479	
	.7000		.3611
	.7200	-.2483	
	.8600	-.2552	
	.9250	-.2625	.3599
	.9700	-.2538	
	.9850	-.2246	.3599
	1.0000	.2086	
0.550	0.0000	-.0910	
	.1000	-.0910	
	.1800	-.0989	
	.2600	-.1104	.3722
	.3400	-.1247	
	.4000	-.1376	.3755
	.4600	-.1533	
	.5400	-.1915	.3851
	.5800	-.2236	
	.6200	-.2395	.3867
	.6600	-.2534	
	.6800	-.2519	
	.7000	-.2486	.3817
	.7200	-.2493	
	.7400	-.2489	
	.7800	-.2486	.3698
	.8200	-.2554	
	.8600	-.2579	.3594
	.9000	-.2610	.3680
	.9250	-.2599	.3797
	.9500	-.2645	.3995
	.9700	-.2640	.4355
	.9850	-.2461	.4831
	.9950	-.1142	.5441
	1.0000	.2937	.3454
0.625	.5400	-.1814	
	.6200	-.2489	
	.7200	-.2412	
	.8600	-.2450	
	1.0000	.2008	
0.675	1.0000	.2192	
0.725	.5400	-.1829	.3086
	.6200	-.2451	.3116
	.7200	-.2409	.3038
	.8600	-.2433	.2736
	1.0000	.2608	
0.825	.5400	-.1947	.2230
	.6200	-.2528	.2343
	.7200	-.2435	.2438

BASE PRESSURES

ORIFICE NO.	CP
50	-.4054
51	-.3786
52	-.3451
53	-.2691

TABLE B3.- CAMBERED WING PRFSSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION.

ALPHA= 3.91

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1544
	.3400	-.0192	
	.4000		.1627
	.5400	-.0309	
	.6200	-.0232	
	.6800	-.0199	
	.7000		.1439
	.7200	-.0082	
	.8600	.0335	
	.9250	.0558	-.0115
	.9700	.0906	
	.9850	.1514	-.0115
	1.0000	.4409	
0.550	0.0000	-.0006	
	.1000	-.0006	
	.1860	-.0057	
	.2600	-.0101	.1676
	.3400	-.0141	
	.4000	-.0157	.1729
	.4600	-.0206	
	.5400	-.0290	.1698
	.5800	-.0297	
	.6200	-.0283	.1682
	.6600	-.0160	
	.6800	-.0122	
	.7000	-.0078	.1466
	.7200	.0035	
	.7400	.0042	
	.7800	.0084	.1252
	.8200	.0241	
	.8600	.0341	.0885
	.9000	.0496	.0065
	.9250	.0633	-.0050
	.9500	.0815	-.0169
	.9700	.1018	-.0477
	.9850	.1528	-.1200
	.9950	.2895	.2122
	1.0000	.4495	.4275

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0302	
	.6200	-.0196	
	.7200	.0058	
	.8600	.0450	
	1.0000	.4325	
0.675	1.0000	.4339	
0.725	.5400	-.0300	.1425
	.6200	-.0219	.1360
	.7200	.0149	.1071
	.8600	.0643	.0335
	1.0000	.4348	
0.825	.5400	-.0248	.0909
	.6200	-.0188	.0945
	.7200	.0133	.0815

BASE PRESSURES

ORIFICE NO.	CP
50	-.3521
51	-.3011
52	-.2980
53	-.2883

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 4.91

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1715
	.3400	-.0281	
	.4000		.1795
	.5400	-.0460	
	.6200	-.0400	
	.6800	-.0379	
	.7000		.1669
	.7200	-.0311	
	.8600	.0063	
	.9250	.0255	.0651
	.9700	.0492	
	.9850	.1066	.0651
	1.0000	.4311	
0.550	0.0000	-.0108	
	.1000	-.0108	
	.1800	-.0202	
	.2600	-.0280	.1875
	.3400	-.0262	
	.4000	-.0302	.1915
	.4600	-.0425	
	.5400	-.0449	.1972
	.5800	-.0526	
	.6200	-.0532	.1952
	.6600	-.0405	
	.6800	-.0337	
	.7000	-.0301	.1739
	.7200	-.0210	
	.7400	-.0208	
	.7800	-.0171	.1524
	.8200	-.0058	
	.8600	.0086	.1029
	.9000	.0175	.0879
	.9250	.0262	.0671
	.9500	.0492	.0454
	.9700	.0623	.0185
	.9850	.1140	-.0195
	.9950	.2405	.2643
	1.0000	.4462	.4321

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0509	
	.6200	-.0428	
	.7200	-.0198	
	.8600	.0138	
	1.0000	.4161	
0.675	1.0000	.4214	
0.725	.5400	-.0535	.1560
	.6200	-.0471	.1528
	.7200	-.0157	.1234
	.8600	.0290	.0481
	1.0000	.4279	
0.825	.5400	-.0542	.1058
	.6200	-.0480	.1129
	.7200	-.0154	.1018

BASE PRESSURES

ORIFICE NO.	CP
50	-.3671
51	-.2685
52	-.3045
53	-.2936

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 5.93

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2024
	.3400	-.0478	
	.4000		.2108
	.5400	-.0666	
	.6200	-.0658	
	.6800	-.0621	
	.7000		.2051
	.7200	-.0540	
	.8600	-.0201	
	.9250	-.0113	.1212
	.9700	-.0140	
	.9850	.0597	.1212
	1.0000	.4161	
0.550	0.0000	-.0264	
	.1000	-.0264	
	.1800	-.0344	
	.2600	-.0441	.2181
	.3400	-.0478	
	.4000	-.0535	.2195
	.4600	-.0557	
	.5400	-.0674	.2229
	.5800	-.0794	
	.6200	-.0725	.2130
	.6600	-.0648	
	.6800	-.0598	
	.7000	-.0562	.1982
	.7200	-.0481	
	.7400	-.0455	
	.7800	-.0428	.1597
	.8200	-.0317	
	.8600	-.0203	.1384
	.9000	-.0161	.1263
	.9250	-.0127	.1128
	.9500	-.0029	.1066
	.9700	.0025	.0933
	.9850	.0449	.0960
	.9950	.1889	.3215
	1.0000	.4367	.4337

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0719	
	.6200	-.0651	
	.7200	-.0479	
	.8600	-.0209	
	1.0000	.3929	
0.675	1.0000	.4008	
0.725	.5400	-.0772	.1835
	.6200	-.0738	.1785
	.7200	-.0417	.1490
	.8600	-.0028	.0802
	1.0000	.4163	
0.825	.5400	-.0774	.1260
	.6200	-.0747	.1377
	.7200	-.0465	.1278

BASE PRESSURES

ORIFICE NO.	CP
50	-.3664
51	-.2971
52	-.3046
53	-.2933

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 7.93

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2409
	.3400	-.0752	
	.4000		.2505
	.5400	-.1061	
	.6200	-.1160	
	.6800	-.1163	
	.7000		.2371
	.7200	-.1114	
	.8600	-.1031	
	.9250	-.1161	.2022
	.9700	-.1046	
	.9850	-.0290	.2022
	1.0000	.3628	
0.550	0.0000	-.0483	
	.1000	-.0483	
	.1800	-.0509	
	.2600	-.0613	.2575
	.3400	-.0655	
	.4000	-.0675	.2592
	.4600	-.0839	
	.5400	-.0959	.2681
	.5800	-.1127	
	.6200	-.1128	.2667
	.6600	-.1132	
	.6800	-.1110	
	.7000	-.1076	.2463
	.7200	-.1010	
	.7400	-.1005	
	.7800	-.0987	.2316
	.8200	-.0929	
	.8600	-.1031	.2125
	.9000	-.1101	.2103
	.9250	-.1096	.2169
	.9500	-.1112	.2247
	.9700	-.0906	.2404
	.9850	-.0561	.2711
	.9950	.0802	.4362
	1.0000	.4079	.4325

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1098	
	.6200	-.1089	
	.7200	-.1005	
	.8600	-.0906	
	1.0000	.3338	
0.675	1.0000	.3388	
0.725	.5400	-.1123	.2294
	.6200	-.1147	.2285
	.7200	-.0983	.1956
	.8600	-.0813	.1509
	1.0000	.3603	
0.825	.5400	-.1125	.1556
	.6200	-.1178	.1741
	.7200	-.0962	.1642

BASE PRESSURES

ORIFICE NO.	CP
50	-.3917
51	-.2782
52	-.3008
53	-.2880

APPENDIX B

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 8.93

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2683
	.3400	-.0884	
	.4000		.2792
	.5400	-.1251	
	.6200	-.1418	
	.6800	-.1418	
	.7000		.2719
	.7200	-.1354	
	.8600	-.1511	
	.9250	-.1609	.2470
	.9700	-.1227	
	.9850	-.0714	.2470
	1.0000	.3366	
0.550	0.0000	-.0614	
	.1000	-.0614	
	.1800	-.0620	
	.2600	-.0708	.2837
	.3400	-.0785	
	.4000	-.0894	.2879
	.4600	-.1009	
	.5400	-.1124	.2951
	.5800	-.1316	
	.6200	-.1326	.2946
	.6600	-.1364	
	.6800	-.1346	
	.7000	-.1318	.2750
	.7200	-.1272	
	.7400	-.1260	
	.7800	-.1334	.2645
	.8200	-.1442	
	.8600	-.1476	.2461
	.9000	-.1641	.2491
	.9250	-.1591	.2512
	.9500	-.1479	.2650
	.9700	-.1238	.2891
	.9850	-.1098	.3374
	.9950	.0362	.4778
	1.0000	.3800	.4258

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1313	
	.6200	-.1343	
	.7200	-.1271	
	.8600	-.1412	
	1.0000	.2975	
0.675	1.0000	.3112	
0.725	.5400	-.1336	.2538
	.6200	-.1392	.2562
	.7200	-.1253	.2289
	.8600	-.1446	.1876
	1.0000	.3387	
0.825	.5400	-.1377	.1744
	.6200	-.1418	.1939
	.7200	-.1271	.1866

BASE PRESSURES

ORIFICE NO.	CP
50	-.4008
51	-.2909
52	-.3041
53	-.2873

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 9.40

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2768
	.3400	-.0951	
	.4000		.2829
	.5400	-.1328	
	.6200	-.1531	
	.6800	-.1531	
	.7000		.2783
	.7200	-.1517	
	.8600	-.1691	
	.9250	-.1799	.2585
	.9700	-.1412	
	.9850	-.1016	.2585
	1.0000	.3215	
0.550	0.0000	-.0682	
	.1000	-.0682	
	.1800	-.0753	
	.2600	-.0787	.2901
	.3400	-.0858	
	.4000	-.0984	.2980
	.4600	-.1140	
	.5400	-.1294	.3059
	.5800	-.1357	
	.6200	-.1445	.3071
	.6600	-.1477	
	.6800	-.1456	
	.7000	-.1441	.2846
	.7200	-.1444	
	.7400	-.1542	
	.7800	-.1604	.2776
	.8200	-.1670	
	.8600	-.1716	.2622
	.9000	-.1759	.2660
	.9250	-.1709	.2759
	.9500	-.1653	.2913
	.9700	-.1486	.3162
	.9850	-.1286	.3637
	.9950	.0119	.5024
	1.0000	.3635	.4225
0.625	.5400	-.1363	
	.6200	-.1431	
	.7200	-.1434	
	.8600	-.1656	
	1.0000	.2843	
0.675	1.0000	.2973	
0.725	.5400	-.1414	.2723
	.6200	-.1488	.2765
	.7200	-.1378	.2470
	.8600	-.1598	.2055
	1.0000	.3241	
0.825	.5400	-.1456	.1839
	.6200	-.1524	.2078
	.7200	-.1396	.2028

BASE PRESSURES

ORIFICE NO.	CP
50	-.3956
51	-.2982
52	-.3064
53	-.2822

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 9.91

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2905
	.3400	-.1015	
	.4000		.2981
	.5400	-.1422	
	.6200	-.1668	
	.6800	-.1726	
	.7000		.2940
	.7200	-.1804	
	.8600	-.1862	
	.9250	-.1970	.2768
	.9700	-.1643	
	.9850	-.1220	.2768
	1.0000	.3013	
0.550	0.0000	-.0728	
	.1000	-.0728	
	.1800	-.0775	
	.2600	-.0842	.3061
	.3400	-.0946	
	.4000	-.1057	.3128
	.4600	-.1186	
	.5400	-.1282	.3153
	.5800	-.1422	
	.6200	-.1572	.3157
	.6600	-.1656	
	.6800	-.1619	
	.7000	-.1657	.3018
	.7200	-.1727	
	.7400	-.1790	
	.7800	-.1778	.2932
	.8200	-.1819	
	.8600	-.1817	.2768
	.9000	-.1930	.2843
	.9250	-.1845	.2922
	.9500	-.1787	.3063
	.9700	-.1763	.3464
	.9850	-.1572	.3947
	.9950	-.0097	.5126
	1.0000	.3527	.4090

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1453	
	.6200	-.1598	
	.7200	-.1711	
	.8600	-.1848	
	1.0000	.2669	
0.675	1.0000	.2823	
0.725	.5400	-.1525	.2820
	.6200	-.1618	.2848
	.7200	-.1674	.2584
	.8600	-.1805	.2191
	1.0000	.3154	
0.825	.5400	-.1528	.1926
	.6200	-.1624	.2143
	.7200	-.1662	.2143

BASE PRESSURES

ORIFICE NO.	CP
50	-.3912
51	-.3266
52	-.3111
53	-.2791

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 10.92

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.3119
	.3400	-.1126	
	.4000		.3205
	.5400	-.1689	
	.6200	-.2028	
	.6800	-.2164	
	.7000		.3209
	.7200	-.2150	
	.8600	-.2146	
	.9250	-.2244	.3157
	.9700	-.2075	
	.9850	-.1782	.3157
	1.0000	.2609	
0.550	0.0000	-.0818	
	.1000	-.0818	
	.1800	-.0842	
	.2600	-.0917	.3282
	.3400	-.1030	
	.4000	-.1191	.3370
	.4600	-.1267	
	.5400	-.1634	.3420
	.5800	-.1764	
	.6200	-.1893	.3424
	.6600	-.2115	
	.6800	-.2128	
	.7000	-.2111	.3323
	.7200	-.2078	
	.7400	-.2114	
	.7800	-.2122	.3259
	.8200	-.2155	
	.8600	-.2206	.3167
	.9000	-.2183	.3221
	.9250	-.2167	.3347
	.9500	-.2140	.3541
	.9700	-.2172	.3929
	.9850	-.2029	.4427
	.9950	-.0575	.5372
	1.0000	.3350	.3904

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1631	
	.6200	-.1939	
	.7200	-.2070	
	.8600	-.2133	
	1.0000	.2395	
0.675	1.0000	.2543	
0.725	.5400	-.1664	.3015
	.6200	-.1993	.3039
	.7200	-.2048	.2871
	.8600	-.2057	.2540
	1.0000	.2879	
0.825	.5400	-.1701	.2088
	.6200	-.2018	.2292
	.7200	-.2087	.2293

BASE PRESSURES

ORIFICE NO.	CP
50	-.3928
51	-.3624
52	-.3253
53	-.2726

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TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(B) M= 1.62, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 11.97

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.3610
	.3400	-.1238	
	.4000		.3674
	.5400	-.2059	
	.6200	-.2371	
	.6800	-.2441	
	.7000		.3664
	.7200	-.2407	
	.8600	-.2453	
	.9250	-.2554	.3671
	.9700	-.2425	
	.9850	-.2125	.3671
	1.0000	.2245	
0.550	0.0000	-.0929	
	.1000	-.0929	
	.1800	-.0992	
	.2600	-.1040	.3774
	.3400	-.1130	
	.4000	-.1308	.3835
	.4600	-.1400	
	.5400	-.1999	.3811
	.5800	-.2302	
	.6200	-.2407	.3810
	.6600	-.2477	
	.6800	-.2466	
	.7000	-.2402	.3695
	.7200	-.2420	
	.7400	-.2417	
	.7800	-.2391	.3582
	.8200	-.2444	
	.8600	-.2477	.3485
	.9000	-.2524	.3585
	.9250	-.2503	.3753
	.9500	-.2540	.3927
	.9700	-.2508	.4290
	.9850	-.2337	.4786
	.9950	-.1112	.5459
	1.0000	.3044	.3605

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1916	
	.6200	-.2446	
	.7200	-.2385	
	.8600	-.2420	
	1.0000	.2011	
0.675	1.0000	.2268	
0.725	.5400	-.1854	.3198
	.6200	-.2519	.3206
	.7200	-.2377	.3009
	.8600	-.2388	.2748
	1.0000	.2685	
0.825	.5400	-.2205	.2294
	.6200	-.2493	.2482
	.7200	-.2392	.2507

BASE PRESSURES

ORIFICE NO.	CP
50	-.3980
51	-.3772
52	-.3456
53	-.2682

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(C) M= 1.66, RE/M= 6.6 MILLION.

ALPHA= 7.91

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2457
	.3400	-.0734	
	.4000		.2556
	.5400	-.1034	
	.6200	-.1151	
	.6800	-.1126	
	.7000		.2395
	.7200	-.1055	
	.8600	-.0877	
	.9250	-.0994	.1988
	.9700	-.0796	
	.9850	-.0099	.1988
	1.0000	.3837	
0.550	0.0000	-.0488	
	.1000	-.0488	
	.1800	-.0561	
	.2600	-.0619	.2544
	.3400	-.0712	
	.4000	-.0806	.2548
	.4600	-.0869	
	.5400	-.1031	.2560
	.5800	-.1092	
	.6200	-.1138	.2558
	.6600	-.1118	
	.6800	-.1080	
	.7000	-.1065	.2404
	.7200	-.0975	
	.7400	-.0951	
	.7800	-.0935	.2240
	.8200	-.0904	
	.8600	-.0929	.2036
	.9000	-.1000	.2003
	.9250	-.0942	.2024
	.9500	-.0978	.2083
	.9700	-.0726	.2238
	.9850	-.0346	.2549
	.9950	.1071	.4244
	1.0000	.4140	.4328
0.625	.5400	-.1093	
	.6200	-.1113	
	.7200	-.0987	
	.8600	-.0892	
	1.0000	.3513	
0.675	1.0000	.3585	
0.725	.5400	-.1127	.2287
	.6200	-.1150	.2136
	.7200	-.0940	.1860
	.8600	-.0722	.1560
	1.0000	.3797	
0.825	.5400	-.1133	.1736
	.6200	-.1160	.1890
	.7200	-.0985	.1718

BASE PRESSURES

ORIFICE NO.	CP
50	-.3721
51	-.2715
52	-.2877
53	-.2728

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(C) M= 1.66, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 8.92

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2725
	.3400	-.0879	
	.4000		.2811
	.5400	-.1235	
	.6200	-.1377	
	.6800	-.1349	
	.7000		.2671
	.7200	-.1308	
	.8600	-.1296	
	.9250	-.1343	.2405
	.9700	-.1006	
	.9850	-.0478	.2405
	1.0000	.3554	
0.550	0.0000	-.0611	
	.1000	-.0611	
	.1800	-.0678	
	.2600	-.0758	.2788
	.3400	-.0821	
	.4000	-.0920	.2802
	.4600	-.0960	
	.5400	-.1267	.2829
	.5800	-.1350	
	.6200	-.1371	.2847
	.6600	-.1382	
	.6800	-.1326	
	.7000	-.1273	.2675
	.7200	-.1208	
	.7400	-.1265	
	.7800	-.1319	.2559
	.8200	-.1338	
	.8600	-.1336	.2371
	.9000	-.1426	.2368
	.9250	-.1353	.2460
	.9500	-.1290	.2557
	.9700	-.1028	.2760
	.9850	-.0800	.3202
	.9950	.0567	.4649
	1.0000	.3948	.4240
0.625	.5400	-.1307	
	.6200	-.1365	
	.7200	-.1245	
	.8600	-.1277	
	1.0000	.3229	
0.675	1.0000	.3315	
0.725	.5400	-.1333	.2527
	.6200	-.1388	.2405
	.7200	-.1206	.2151
	.8600	-.1212	.1869
	1.0000	.3578	
0.825	.5400	-.1348	.1916
	.6200	-.1403	.2092
	.7200	-.1202	.1914

BASE PRESSURES

ORIFICE NO.	CP
50	-.3784
51	-.2821
52	-.2922
53	-.2714

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(C) M= 1.66, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 9.93

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2976
	.3400	-.0992	
	.4000		.3067
	.5400	-.1428	
	.6200	-.1621	
	.6800	-.1689	
	.7000		.3018
	.7200	-.1691	
	.8600	-.1598	
	.9250	-.1740	.2836
	.9700	-.1332	
	.9850	-.1037	.2836
	1.0000	.3202	
0.550	0.0000	-.0715	
	.1000	-.0715	
	.1800	-.0789	
	.2600	-.0882	.3020
	.3400	-.0955	
	.4000	-.1038	.3070
	.4600	-.1140	
	.5400	-.1435	.3114
	.5800	-.1575	
	.6200	-.1673	.3131
	.6600	-.1636	
	.6800	-.1651	
	.7000	-.1657	.2963
	.7200	-.1647	
	.7400	-.1651	
	.7800	-.1661	.2851
	.8200	-.1642	
	.8600	-.1699	.2698
	.9000	-.1727	.2751
	.9250	-.1657	.2870
	.9500	-.1531	.3010
	.9700	-.1470	.3317
	.9850	-.1288	.3784
	.9950	.0185	.4981
	1.0000	.3749	.4125

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1496	
	.6200	-.1633	
	.7200	-.1639	
	.8600	-.1644	
	1.0000	.2944	
0.675	1.0000	.3071	
0.725	.5400	-.1507	.2741
	.6200	-.1699	.2640
	.7200	-.1605	.2400
	.8600	-.1583	.2212
	1.0000	.3299	
0.825	.5400	-.1502	.2068
	.6200	-.1690	.2313
	.7200	-.1575	.2154

BASE PRESSURES

ORIFICE NO.	CP
50	-.3712
51	-.3055
52	-.2985
53	-.2645

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(C) M= 1.66, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 10.93

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.3263
	.3400	-.1088	
	.4000		.3312
	.5400	-.1728	
	.6200	-.2013	
	.6800	-.2072	
	.7000		.3279
	.7200	-.1984	
	.8600	-.1956	
	.9250	-.2015	.3217
	.9700	-.1776	
	.9850	-.1451	.3217
	1.0000	.2865	
0.550	0.0000	-.0827	
	.1000	-.0827	
	.1800	-.0896	
	.2600	-.0978	.3284
	.3400	-.1053	
	.4000	-.1160	.3320
	.4600	-.1262	
	.5400	-.1668	.3361
	.5800	-.1920	
	.6200	-.1955	.3344
	.6600	-.2048	
	.6800	-.2033	
	.7000	-.1973	.3233
	.7200	-.1922	
	.7400	-.1957	
	.7800	-.1945	.3147
	.8200	-.1950	
	.8600	-.1991	.3056
	.9000	-.1991	.3123
	.9250	-.1930	.3255
	.9500	-.1927	.3443
	.9700	-.1861	.3831
	.9850	-.1713	.4314
	.9950	-.0263	.5275
	1.0000	.3478	.3978

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1679	
	.6200	-.2060	
	.7200	-.1941	
	.8600	-.1935	
	1.0000	.2628	
0.675	1.0000	.2758	
0.725	.5400	-.1680	.2940
	.6200	-.2055	.2842
	.7200	-.1899	.2658
	.8600	-.1859	.2495
	1.0000	.3058	
0.825	.5400	-.1707	.2229
	.6200	-.2109	.2423
	.7200	-.1924	.2358

BASE PRESSURES

ORIFICE NO.	CP
50	-.3739
51	-.3437
52	-.3139
53	-.2608

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(C) M= 1.66, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 11.94

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.3534
	.3400	-.1198	
	.4000		.3579
	.5400	-.2032	
	.6200	-.2359	
	.6800	-.2320	
	.7000		.3616
	.7200	-.2276	
	.8600	-.2226	
	.9250	-.2285	.3599
	.9700	-.2167	
	.9850	-.1815	.3599
	1.0000	.2498	
0.550	0.0000	-.0913	
	.1000	-.0913	
	.1800	-.0987	
	.2600	-.1069	.3566
	.3400	-.1161	
	.4000	-.1254	.3609
	.4600	-.1382	
	.5400	-.1989	.3635
	.5800	-.2360	
	.6200	-.2393	.3632
	.6600	-.2338	
	.6800	-.2265	
	.7000	-.2257	.3558
	.7200	-.2255	
	.7400	-.2224	
	.7800	-.2230	.3459
	.8200	-.2238	
	.8600	-.2248	.3396
	.9000	-.2238	.3517
	.9250	-.2255	.3656
	.9500	-.2263	.3888
	.9700	-.2215	.4253
	.9850	-.2047	.4798
	.9950	-.0724	.5490
	1.0000	.3185	.3782

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1955	
	.6200	-.2382	
	.7200	-.2216	
	.8600	-.2199	
	1.0000	.2298	
0.675	1.0000	.2538	
0.725	.5400	-.1900	.3172
	.6200	-.2429	.3046
	.7200	-.2189	.2933
	.8600	-.2078	.2822
	1.0000	.2920	
0.825	.5400	-.2157	.2446
	.6200	-.2421	.2611
	.7200	-.2198	.2620

BASE PRESSURES

ORIFICE NO.	CP
50	-.3777
51	-.3571
52	-.3291
53	-.2528

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TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(D) M= 1.70, RE/M= 6.5 MILLION.

ALPHA= 5.93

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.1995
	.3400	-.0440	
	.4000		.2010
	.5400	-.0672	
	.6200	-.0680	
	.6800	-.0616	
	.7000		.1927
	.7200	-.0510	
	.8600	-.0154	
	.9250	-.0033	.1026
	.9700	.0069	
	.9850	.0832	.1026
	1.0000	.4256	
0.550	0.0000	-.0228	
	.1000	-.0228	
	.1800	-.0279	
	.2600	-.0330	.2031
	.3400	-.0408	
	.4000	-.0504	.2079
	.4600	-.0582	
	.5400	-.0688	.2068
	.5800	-.0724	
	.6200	-.0709	.2063
	.6600	-.0632	
	.6800	-.0553	
	.7000	-.0516	.1918
	.7200	-.0405	
	.7400	-.0406	
	.7800	-.0351	.1609
	.8200	-.0234	
	.8600	-.0133	.1403
	.9000	-.0073	.1273
	.9250	.0032	.1190
	.9500	.0149	.1067
	.9700	.0232	.0901
	.9850	.0722	.0796
	.9950	.2157	.3165
	1.0000	.4482	.4412

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0668	
	.6200	-.0646	
	.7200	-.0459	
	.8600	-.0059	
	1.0000	.4248	
0.675	1.0000	.4118	
0.725	.5400	-.0688	.1618
	.6200	-.0640	.1574
	.7200	-.0352	.1490
	.8600	.0066	.0800
	1.0000	.4296	
0.825	.5400	-.0701	.1406
	.6200	-.0642	.1442
	.7200	-.0370	.1270

BASE PRESSURES

ORIFICE NO.	CP
50	-.3319
51	-.2633
52	-.2779
53	-.2660

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(D) M= 1.70, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 7.93

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2465
	.3400	-.0721	
	.4000		.2519
	.5400	-.1051	
	.6200	-.1151	
	.6800	-.1088	
	.7000		.2407
	.7200	-.1005	
	.8600	-.0822	
	.9250	-.0899	.1855
	.9700	-.0661	
	.9850	.0120	.1855
	1.0000	.3885	
0.550	0.0000	-.0473	
	.1000	-.0473	
	.1800	-.0543	
	.2600	-.0616	.2491
	.3400	-.0705	
	.4000	-.0821	.2532
	.4600	-.0942	
	.5400	-.1077	.2577
	.5800	-.1139	
	.6200	-.1162	.2554
	.6600	-.1109	
	.6800	-.1057	
	.7000	-.1011	.2430
	.7200	-.0935	
	.7400	-.0922	
	.7800	-.0856	.2249
	.8200	-.0879	
	.8600	-.0876	.2075
	.9000	-.0856	.2037
	.9250	-.0880	.2024
	.9500	-.0811	.2050
	.9700	-.0599	.2149
	.9850	-.0112	.2422
	.9950	.1268	.4130
	1.0000	.4311	.4364

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1037	
	.6200	-.1119	
	.7200	-.0905	
	.8600	-.0741	
	1.0000	.3708	
0.675	1.0000	.3704	
0.725	.5400	-.1102	.2064
	.6200	-.1110	.2024
	.7200	-.0913	.1900
	.8600	-.0602	.1469
	1.0000	.3877	
0.825	.5400	-.1103	.1769
	.6200	-.1127	.1889
	.7200	-.0890	.1703

BASE PRESSURES

ORIFICE NO.	CP
50	-.3518
51	-.2717
52	-.2781
53	-.2615

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(D) M= 1.70, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 8.94

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2702
	.3400	-.0887	
	.4000		.2776
	.5400	-.1285	
	.6200	-.1397	
	.6800	-.1334	
	.7000		.2647
	.7200	-.1283	
	.8600	-.1154	
	.9250	-.1209	.2322
	.9700	-.0855	
	.9850	-.0300	.2322
	1.0000	.3643	
0.550	0.0000	-.0611	
	.1000	-.0611	
	.1800	-.0688	
	.2600	-.0750	.2724
	.3400	-.0843	
	.4000	-.0955	.2744
	.4600	-.1098	
	.5400	-.1257	.2784
	.5800	-.1361	
	.6200	-.1404	.2782
	.6600	-.1341	
	.6800	-.1291	
	.7000	-.1238	.2584
	.7200	-.1200	
	.7400	-.1261	
	.7800	-.1236	.2518
	.8200	-.1230	
	.8600	-.1180	.2364
	.9000	-.1313	.2384
	.9250	-.1248	.2448
	.9500	-.1128	.2538
	.9700	-.0809	.2759
	.9850	-.0565	.3134
	.9950	.0823	.4633
	1.0000	.4049	.4356

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1281	
	.6200	-.1426	
	.7200	-.1224	
	.8600	-.1173	
	1.0000	.3367	
0.675	1.0000	.3479	
0.725	.5400	-.1323	.2383
	.6200	-.1434	.2351
	.7200	-.1174	.2192
	.8600	-.1095	.1857
	1.0000	.3684	
0.825	.5400	-.1335	.1974
	.6200	-.1420	.2152
	.7200	-.1168	.1934

BASE PRESSURES

ORIFICE NO.	CP
50	-.3604
51	-.2792
52	-.2845
53	-.2632

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(D) M= 1.70, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 9.93

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.3035
	.3400	-.0994	
	.4000		.3113
	.5400	-.1450	
	.6200	-.1623	
	.6800	-.1663	
	.7000		.2967
	.7200	-.1586	
	.8600	-.1482	
	.9250	-.1560	.2766
	.9700	-.1095	
	.9850	-.0756	.2766
	1.0000	.3377	
0.550	0.0000	-.0704	
	.1000	-.0704	
	.1800	-.0786	
	.2600	-.0856	.3057
	.3400	-.0972	
	.4000	-.1104	.3083
	.4600	-.1241	
	.5400	-.1449	.3108
	.5800	-.1635	
	.6200	-.1680	.3098
	.6600	-.1646	
	.6800	-.1644	
	.7000	-.1614	.2934
	.7200	-.1534	
	.7400	-.1561	
	.7800	-.1515	.2844
	.8200	-.1507	
	.8600	-.1555	.2695
	.9000	-.1535	.2770
	.9250	-.1501	.2854
	.9500	-.1332	.2974
	.9700	-.1199	.3282
	.9850	-.1000	.3686
	.9950	.0370	.4959
	1.0000	.3851	.4256

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1472	
	.6200	-.1659	
	.7200	-.1560	
	.8600	-.1511	
	1.0000	.3073	
0.675	1.0000	.3303	
0.725	.5400	-.1481	.2627
	.6200	-.1666	.2617
	.7200	-.1486	.2475
	.8600	-.1359	.2203
	1.0000	.3495	
0.825	.5400	-.1507	.2201
	.6200	-.1701	.2405
	.7200	-.1465	.2201

BASE PRESSURES

ORIFICE NO.	CP
50	-.3575
51	-.3020
52	-.2907
53	-.2578

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(D) M= 1.70, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 10.92

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.3144
	.3400	-.1083	
	.4000		.3227
	.5400	-.1766	
	.6200	-.2019	
	.6800	-.1954	
	.7000		.3203
	.7200	-.1880	
	.8600	-.1777	
	.9250	-.1789	.3066
	.9700	-.1546	
	.9850	-.1220	.3066
	1.0000	.3027	
0.550	0.0000	-.0782	
	.1000	-.0782	
	.1800	-.0855	
	.2600	-.0929	.3187
	.3400	-.1070	
	.4000	-.1175	.3246
	.4600	-.1335	
	.5400	-.1672	.3282
	.5800	-.1928	
	.6200	-.2018	.3299
	.6600	-.1944	
	.6800	-.1874	
	.7000	-.1859	.3199
	.7200	-.1769	
	.7400	-.1817	
	.7800	-.1840	.3121
	.8200	-.1812	
	.8600	-.1856	.3042
	.9000	-.1832	.3163
	.9250	-.1728	.3304
	.9500	-.1720	.3503
	.9700	-.1634	.3762
	.9850	-.1466	.4323
	.9950	-.0051	.5315
	1.0000	.3627	.4131

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1678	
	.6200	-.1997	
	.7200	-.1783	
	.8600	-.1776	
	1.0000	.2823	
0.675	1.0000	.2980	
0.725	.5400	-.1693	.2881
	.6200	-.2046	.2860
	.7200	-.1780	.2790
	.8600	-.1690	.2601
	1.0000	.3200	
0.825	.5400	-.1660	.2328
	.6200	-.2089	.2536
	.7200	-.1773	.2387

BASE PRESSURES

ORIFICE NO.	CP
50	-.3569
51	-.3265
52	-.3007
53	-.2488

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(D) M= 1.70, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 11.93

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.3516
	.3400	-.1144	
	.4000		.3569
	.5400	-.2054	
	.6200	-.2274	
	.6800	-.2171	
	.7000		.3520
	.7200	-.2119	
	.8600	-.2022	
	.9250	-.2069	.3509
	.9700	-.1899	
	.9850	-.1596	.3509
	1.0000	.2684	
0.550	0.0000	-.0861	
	.1000	-.0861	
	.1800	-.0956	
	.2600	-.1047	.3544
	.3400	-.1110	
	.4000	-.1247	.3613
	.4600	-.1397	
	.5400	-.2055	.3639
	.5800	-.2354	
	.6200	-.2340	.3652
	.6600	-.2168	
	.6800	-.2142	
	.7000	-.2097	.3570
	.7200	-.2075	
	.7400	-.2098	
	.7800	-.2065	.3479
	.8200	-.2052	
	.8600	-.2123	.3413
	.9000	-.2054	.3489
	.9250	-.2022	.3625
	.9500	-.2020	.3825
	.9700	-.1992	.4197
	.9850	-.1820	.4719
	.9950	-.0443	.5462
	1.0000	.3370	.3870

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.2029	
	.6200	-.2291	
	.7200	-.2054	
	.8600	-.2027	
	1.0000	.2563	
0.675	1.0000	.2752	
0.725	.5400	-.2110	.3041
	.6200	-.2302	.3048
	.7200	-.2034	.2945
	.8600	-.1925	.2793
	1.0000	.3063	
0.825	.5400	-.2189	.2513
	.6200	-.2294	.2704
	.7200	-.2056	.2640

BASE PRESSURES

ORIFICE NO.	CP
50	-.3611
51	-.3406
52	-.3176
53	-.2469

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(E) M= 1.86, RE/M= 6.6 MILLION.

ALPHA= 7.88

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2381
	.3400	-.0610	
	.4000		.2452
	.5400	-.1001	
	.6200	-.1075	
	.6800	-.0947	
	.7000		.2270
	.7200	-.0823	
	.8600	-.0509	
	.9250	-.0389	.1703
	.9700	-.0085	
	.9850	.0694	.1703
	1.0000	.4211	
0.550	0.0000	-.0368	
	.1000	-.0368	
	.1800	-.0422	
	.2600	-.0490	.2422
	.3400	-.0573	
	.4000	-.0674	.2398
	.4600	-.0791	
	.5400	-.0964	.2487
	.5800	-.1108	
	.6200	-.1116	.2488
	.6600	-.0964	
	.6800	-.0890	
	.7000	-.0841	.2373
	.7200	-.0767	
	.7400	-.0738	
	.7800	-.0649	.2097
	.8200	-.0547	
	.8600	-.0463	.1888
	.9000	-.0420	.1820
	.9250	-.0306	.1794
	.9500	-.0257	.1827
	.9700	.0003	.1872
	.9850	.0530	.2115
	.9950	.1921	.4123
	1.0000	.4597	.4755

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.0981	
	.6200	-.1077	
	.7200	-.0768	
	.8600	-.0451	
	1.0000	.4110	
0.675	1.0000	.4105	
0.725	.5400	-.1027	.2117
	.6200	-.1093	.2085
	.7200	-.0719	.1957
	.8600	-.0302	.1404
	1.0000	.4249	
0.825	.5400	-.1037	.1804
	.6200	-.1106	.1807
	.7200	-.0705	.1707

BASE PRESSURES

ORIFICE NO.	CP
50	-.2895
51	-.2647
52	-.2548
53	-.2321

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(E) M= 1.86, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 8.90

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2642
	.3400	-.0724	
	.4000		.2722
	.5400	-.1238	
	.6200	-.1337	
	.6800	-.1150	
	.7000		.2446
	.7200	-.1019	
	.8600	-.0762	
	.9250	-.0686	.2104
	.9700	-.0265	
	.9850	.0359	.2104
	1.0000	.4077	
0.550	0.0000	-.0465	
	.1000	-.0465	
	.1800	-.0536	
	.2600	-.0619	.2645
	.3400	-.0651	
	.4000	-.0737	.2666
	.4600	-.0873	
	.5400	-.1265	.2741
	.5800	-.1431	
	.6200	-.1398	.2748
	.6600	-.1223	
	.6800	-.1161	
	.7000	-.1089	.2512
	.7200	-.0998	
	.7400	-.0968	
	.7800	-.0892	.2424
	.8200	-.0821	
	.8600	-.0753	.2205
	.9000	-.0741	.2162
	.9250	-.0648	.2154
	.9500	-.0483	.2210
	.9700	-.0158	.2342
	.9850	.0159	.2618
	.9950	.1532	.4365
	1.0000	.4512	.4560

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1236	
	.6200	-.1310	
	.7200	-.0970	
	.8600	-.0741	
	1.0000	.3945	
0.675	1.0000	.3929	
0.725	.5400	-.1237	.2268
	.6200	-.1296	.2232
	.7200	-.0910	.2004
	.8600	-.0607	.1590
	1.0000	.4117	
0.825	.5400	-.1227	.1984
	.6200	-.1346	.1979
	.7200	-.0902	.1789

BASE PRESSURES

ORIFICE NO.	CP
50	-.3006
51	-.2526
52	-.2541
53	-.2249

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(E) M= 1.86, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 9.92

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2863
	.3400	-.0830	
	.4000		.2961
	.5400	-.1502	
	.6200	-.1523	
	.6800	-.1358	
	.7000		.2779
	.7200	-.1245	
	.8600	-.0984	
	.9250	-.0932	.2491
	.9700	-.0437	
	.9850	-.0053	.2491
	1.0000	.3805	
0.550	0.0000	-.0534	
	.1000	-.0534	
	.1800	-.0632	
	.2600	-.0712	.2908
	.3400	-.0771	
	.4000	-.0869	.2936
	.4600	-.1049	
	.5400	-.1618	.3016
	.5800	-.1713	
	.6200	-.1642	.3061
	.6600	-.1409	
	.6800	-.1327	
	.7000	-.1264	.2832
	.7200	-.1194	
	.7400	-.1200	
	.7800	-.1136	.2753
	.8200	-.1072	
	.8600	-.1003	.2538
	.9000	-.0988	.2563
	.9250	-.0891	.2589
	.9500	-.0738	.2753
	.9700	-.0481	.2918
	.9850	-.0274	.3272
	.9950	.1145	.4790
	1.0000	.4385	.4513
0.625	.5400	-.1595	
	.6200	-.1513	
	.7200	-.1190	
	.8600	-.1028	
	1.0000	.3731	
0.675	1.0000	.3746	
0.725	.5400	-.1648	.2535
	.6200	-.1525	.2507
	.7200	-.1135	.2292
	.8600	-.0885	.1932
	1.0000	.3963	
0.825	.5400	-.1680	.2234
	.6200	-.1567	.2229
	.7200	-.1137	.2026

BASE PRESSURES

ORIFICE NO.	CP
50	-.3026
51	-.2601
52	-.2573
53	-.2212

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(E) M= 1.86, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 10.90

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.3126
	.3400	-.0907	
	.4000		.3238
	.5400	-.1872	
	.6200	-.1688	
	.6800	-.1544	
	.7000		.3049
	.7200	-.1422	
	.8600	-.1214	
	.9250	-.1194	.2905
	.9700	-.0823	
	.9850	-.0394	.2905
	1.0000	.3562	
0.550	0.0000	-.0642	
	.1000	-.0642	
	.1800	-.0753	
	.2600	-.0808	.3120
	.3400	-.0873	
	.4000	-.0993	.3176
	.4600	-.1137	
	.5400	-.1949	.3246
	.5800	-.1881	
	.6200	-.1792	.3239
	.6600	-.1577	
	.6800	-.1501	
	.7000	-.1465	.3104
	.7200	-.1402	
	.7400	-.1395	
	.7800	-.1351	.3013
	.8200	-.1289	
	.8600	-.1273	.2871
	.9000	-.1190	.2901
	.9250	-.1106	.2964
	.9500	-.0969	.3111
	.9700	-.0851	.3391
	.9850	-.0612	.3828
	.9950	.0806	.5063
	1.0000	.4197	.4413

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1964	
	.6200	-.1694	
	.7200	-.1400	
	.8600	-.1250	
	1.0000	.3431	
0.675	1.0000	.3548	
0.725	.5400	-.2015	.2771
	.6200	-.1684	.2750
	.7200	-.1334	.2567
	.8600	-.1089	.2249
	1.0000	.3795	
0.825	.5400	-.1991	.2468
	.6200	-.1712	.2494
	.7200	-.1322	.2282

BASE PRESSURES

ORIFICE NO.	CP
50	-.3003
51	-.2673
52	-.2617
53	-.2184

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(E) M= 1.86, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 11.90

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.3394
	.3400	-.1007	
	.4000		.3516
	.5400	-.2087	
	.6200	-.1898	
	.6800	-.1720	
	.7000		.3355
	.7200	-.1633	
	.8600	-.1444	
	.9250	-.1451	.3271
	.9700	-.1096	
	.9850	-.0823	.3271
	1.0000	.3313	
0.550	0.0000	-.0715	
	.1000	-.0715	
	.1800	-.0869	
	.2600	-.0881	.3353
	.3400	-.0967	
	.4000	-.1064	.3398
	.4600	-.1523	
	.5400	-.2139	.3491
	.5800	-.2020	
	.6200	-.1945	.3468
	.6600	-.1742	
	.6800	-.1699	
	.7000	-.1644	.3403
	.7200	-.1611	
	.7400	-.1585	
	.7800	-.1550	.3310
	.8200	-.1486	
	.8600	-.1502	.3230
	.9000	-.1439	.3327
	.9250	-.1357	.3436
	.9500	-.1269	.3628
	.9700	-.1186	.4008
	.9850	-.0976	.4505
	.9950	.0457	.5501
	1.0000	.3937	.4412
0.625	.5400	-.2136	
	.6200	-.1849	
	.7200	-.1603	
	.8600	-.1427	
	1.0000	.3221	
0.675	1.0000	.3357	
0.725	.5400	-.2187	.3061
	.6200	-.1879	.2977
	.7200	-.1562	.2880
	.8600	-.1358	.2616
	1.0000	.3631	
0.825	.5400	-.2201	.2657
	.6200	-.1873	.2730
	.7200	-.1569	.2543

BASE PRESSURES

ORIFICE NO.	CP
50	-.2999
51	-.2789
52	-.2694
53	-.2166

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(F) M= 2.00, RE/M= 6.6 MILLION.

ALPHA= 7.81

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2181
	.3400	-.0592	
	.4000		.2233
	.5400	-.1077	
	.6200	-.0987	
	.6800	-.0786	
	.7000		.2227
	.7200	-.0618	
	.8600	-.0220	
	.9250	-.0065	.1384
	.9700	.0303	
	.9850	.1095	.1384
	1.0000	.4507	
0.550	0.0000	-.0370	
	.1000	-.0370	
	.1800	-.0416	
	.2600	-.0472	.2246
	.3400	-.0544	
	.4000	-.0654	.2250
	.4600	-.0780	
	.5400	-.1083	.2240
	.5800	-.1105	
	.6200	-.1045	.2265
	.6600	-.0813	
	.6800	-.0738	
	.7000	-.0655	.2193
	.7200	-.0564	
	.7400	-.0511	
	.7800	-.0423	.1767
	.8200	-.0311	
	.8600	-.0198	.1571
	.9000	-.0128	.1465
	.9250	.0006	.1397
	.9500	.0106	.1359
	.9700	.0341	.1383
	.9850	.0935	.1583
	.9950	.2289	.3831
	1.0000	.4748	.4842

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1067	
	.6200	-.0950	
	.7200	-.0562	
	.8600	-.0160	
	1.0000	.4345	
0.675	1.0000	.4382	
0.725	.5400	-.1103	.1952
	.6200	-.0941	.1895
	.7200	-.0505	.1809
	.8600	-.0002	.1118
	1.0000	.4495	
0.825	.5400	-.1143	.1683
	.6200	-.0986	.1667
	.7200	-.0503	.1551

BASE PRESSURES

ORIFICE NO.	CP
50	-.2520
51	-.2261
52	-.2269
53	-.2087

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(F) M= 2.00, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 8.83

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2394
	.3400	-.0713	
	.4000		.2448
	.5400	-.1320	
	.6200	-.1163	
	.6800	-.0950	
	.7000		.2341
	.7200	-.0803	
	.8600	-.0447	
	.9250	-.0312	.1805
	.9700	.0130	
	.9850	.0871	.1805
	1.0000	.4466	
0.550	0.0000	-.0476	
	.1000	-.0476	
	.1800	-.0530	
	.2600	-.0595	.2471
	.3400	-.0652	
	.4000	-.0724	.2469
	.4600	-.0852	
	.5400	-.1367	.2480
	.5800	-.1316	
	.6200	-.1232	.2496
	.6600	-.0953	
	.6800	-.0876	
	.7000	-.0807	.2410
	.7200	-.0736	
	.7400	-.0703	
	.7800	-.0614	.2110
	.8200	-.0520	
	.8600	-.0438	.1878
	.9000	-.0366	.1793
	.9250	-.0270	.1813
	.9500	-.0126	.1820
	.9700	.0204	.1923
	.9850	.0651	.2206
	.9950	.1998	.4192
	1.0000	.4698	.4834
0.625	.5400	-.1372	
	.6200	-.1106	
	.7200	-.0746	
	.8600	-.0397	
	1.0000	.4170	
0.675	1.0000	.4267	
0.725	.5400	-.1408	.2203
	.6200	-.1115	.2144
	.7200	-.0691	.2013
	.8600	-.0244	.1401
	1.0000	.4375	
0.825	.5400	-.1440	.1909
	.6200	-.1151	.1877
	.7200	-.0681	.1820

BASE PRESSURES

ORIFICE NO.	CP
50	-.2579
51	-.2310
52	-.2315
53	-.2064

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(F) M= 2.00, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 9.80

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2659
	.3400	-.0804	
	.4000		.2698
	.5400	-.1581	
	.6200	-.1279	
	.6800	-.1087	
	.7000		.2535
	.7200	-.0976	
	.8600	-.0641	
	.9250	-.0535	.2212
	.9700	.0049	
	.9850	.0557	.2212
	1.0000	.4272	
0.550	0.0000	-.0543	
	.1000	-.0543	
	.1800	-.0620	
	.2600	-.0682	.2714
	.3400	-.0709	
	.4000	-.0918	.2728
	.4600	-.1114	
	.5400	-.1591	.2732
	.5800	-.1461	
	.6200	-.1370	.2761
	.6600	-.1130	
	.6800	-.1048	
	.7000	-.1004	.2574
	.7200	-.0924	
	.7400	-.0894	
	.7800	-.0819	.2428
	.8200	-.0735	
	.8600	-.0654	.2193
	.9000	-.0607	.2163
	.9250	-.0485	.2209
	.9500	-.0332	.2300
	.9700	.0003	.2469
	.9850	.0286	.2831
	.9950	.1683	.4571
	1.0000	.4572	.4802

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1590	
	.6200	-.1271	
	.7200	-.0948	
	.8600	-.0641	
	1.0000	.3962	
0.675	1.0000	.4129	
0.725	.5400	-.1623	.2377
	.6200	-.1272	.2309
	.7200	-.0887	.2150
	.8600	-.0501	.1676
	1.0000	.4286	
0.825	.5400	-.1651	.2076
	.6200	-.1302	.2078
	.7200	-.0880	.1894

BASE PRESSURES

ORIFICE NO.	CP
50	-.2658
51	-.2316
52	-.2329
53	-.2059

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONTINUED.

(F) M= 2.00, RE/M= 6.6 MILLION, CONTINUED.

ALPHA= 10.82

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.2887
	.3400	-.0882	
	.4000		.2959
	.5400	-.1729	
	.6200	-.1398	
	.6800	-.1223	
	.7000		.2849
	.7200	-.1135	
	.8600	-.0858	
	.9250	-.0749	.2640
	.9700	-.0227	
	.9850	.0215	.2640
	1.0000	.4035	
0.550	0.0000	-.0615	
	.1000	-.0615	
	.1800	-.0678	
	.2600	-.0735	.2956
	.3400	-.0812	
	.4000	-.0931	.2958
	.4600	-.1123	
	.5400	-.1722	.2974
	.5800	-.1570	
	.6200	-.1497	.3025
	.6600	-.1262	
	.6800	-.1209	
	.7000	-.1140	.2859
	.7200	-.1090	
	.7400	-.1068	
	.7800	-.0991	.2719
	.8200	-.0923	
	.8600	-.0851	.2529
	.9000	-.0830	.2543
	.9250	-.0676	.2605
	.9500	-.0512	.2754
	.9700	-.0302	.3007
	.9850	-.0012	.3440
	.9950	.1406	.4930
	1.0000	.4466	.4756

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1722	
	.6200	-.1395	
	.7200	-.1100	
	.8600	-.0837	
	1.0000	.3782	
0.675	1.0000	.3937	
0.725	.5400	-.1749	.2591
	.6200	-.1414	.2540
	.7200	-.1072	.2377
	.8600	-.0744	.1986
	1.0000	.4155	
0.825	.5400	-.1759	.2279
	.6200	-.1436	.2309
	.7200	-.1031	.2095

BASE PRESSURES

ORIFICE NO.	CP
50	-.2649
51	-.2332
52	-.2323
53	-.2038

TABLE B3.- CAMBERED WING PRESSURE DATA, FIXED TRANSITION, CONCLUDED.

(F) M= 2.00, RE/M= 6.6 MILLION, CONCLUDED.

ALPHA= 11.82

X/L	ETA	CP-UPPER	CP-LOWER
0.450	.2600		.3109
	.3400	-.0946	
	.4000		.3202
	.5400	-.1850	
	.6200	-.1553	
	.6800	-.1391	
	.7000		.3150
	.7200	-.1314	
	.8600	-.1042	
	.9250	-.0969	.3002
	.9700	-.0521	
	.9850	-.0157	.3002
	1.0000	.3863	
0.550	0.0000	-.0696	
	.1000	-.0696	
	.1800	-.0868	
	.2600	-.0854	.3183
	.3400	-.0936	
	.4000	-.1075	.3182
	.4600	-.1347	
	.5400	-.1828	.3224
	.5800	-.1705	
	.6200	-.1628	.3283
	.6600	-.1400	
	.6800	-.1356	
	.7000	-.1299	.3098
	.7200	-.1237	
	.7400	-.1232	
	.7800	-.1182	.2984
	.8200	-.1117	
	.8600	-.1054	.2822
	.9000	-.0982	.2914
	.9250	-.0863	.2982
	.9500	-.0734	.3180
	.9700	-.0591	.3493
	.9850	-.0314	.3967
	.9950	.1103	.5254
	1.0000	.4378	.4684

X/L	ETA	CP-UPPER	CP-LOWER
0.625	.5400	-.1837	
	.6200	-.1527	
	.7200	-.1247	
	.8600	-.1019	
	1.0000	.3607	
0.675	1.0000	.3780	
0.725	.5400	-.1865	.2846
	.6200	-.1552	.2777
	.7200	-.1249	.2640
	.8600	-.0931	.2294
	1.0000	.4052	
0.825	.5400	-.1875	.2521
	.6200	-.1569	.2558
	.7200	-.1226	.2397

BASE PRESSURES

ORIFICE NO.	CP
50	-.2644
51	-.2364
52	-.2346
53	-.2016

APPENDIX C

FORCE AND MOMENT DATA

Force and moment data for the two wings tested are given in tables C1 to C3. The force and moment coefficients for each Mach number and Reynolds number are presented as a function of angle of attack. Data are presented for the flat wing with free and fixed transition in tables C1 and C2, respectively, and for the cambered wing with fixed transition in table C3.

TABLE C1.- FLAT WING FORCE AND MOMENT DATA, FREE TRANSITION.

ALPHA, DEG	CN	CA	CL	CD	L/D	CM	CAC	CAB	CDC	CDB	ALPHA, DEG
					M= 1.60, RE/M= 6.6 MILLION						
-4.25	-.1736	.0135	-.1721	.0264	-6.5304	-.0101	.0113	.0081	.0113	.0081	-4.25
-2.24	-.0787	.0140	-.0781	.0171	-4.5692	-.0017	.0112	.0081	.0112	.0081	-2.24
-1.19	-.0294	.0144	-.0291	.0150	-1.9448	.0028	.0113	.0081	.0113	.0081	-1.19
-.20	.0163	.0147	.0163	.0147	1.1143	.0073	.0113	.0081	.0113	.0081	-.20
.81	.0631	.0151	.0629	.0160	3.9279	.0116	.0113	.0081	.0113	.0081	.81
1.77	.1065	.0149	.1060	.0182	5.8128	.0157	.0114	.0082	.0114	.0082	1.77
3.85	.2041	.0154	.2026	.0291	6.9552	.0247	.0114	.0083	.0114	.0082	3.85
5.78	.2933	.0164	.2902	.0459	6.3289	.0325	.0115	.0083	.0115	.0083	5.78
6.80	.3401	.0169	.3357	.0570	5.8882	.0365	.0116	.0084	.0115	.0083	6.80
7.83	.3864	.0174	.3804	.0699	5.4424	.0402	.0116	.0084	.0115	.0083	7.83
8.78	.4294	.0180	.4217	.0834	5.0597	.0437	.0118	.0084	.0117	.0083	8.78
					M= 1.62, RE/M= 6.6 MILLION						
-4.22	-.1696	.0131	-.1682	.0255	-6.5951	-.0099	.0112	.0081	.0112	.0081	-4.22
-2.22	-.0762	.0136	-.0756	.0166	-4.5672	-.0016	.0111	.0081	.0111	.0081	-2.22
-1.20	-.0277	.0139	-.0274	.0145	-1.8915	.0029	.0112	.0081	.0112	.0081	-1.20
-.20	.0176	.0144	.0176	.0143	1.2338	.0073	.0111	.0081	.0111	.0081	-.20
.78	.0625	.0149	.0623	.0158	3.9434	.0115	.0111	.0081	.0111	.0081	.78
1.80	.1082	.0150	.1077	.0184	5.8657	.0158	.0111	.0081	.0111	.0081	1.80
3.79	.2005	.0155	.1990	.0287	6.9411	.0242	.0112	.0081	.0112	.0081	3.79
5.79	.2920	.0165	.2888	.0458	6.3033	.0322	.0113	.0082	.0112	.0081	5.79
6.80	.3391	.0170	.3347	.0571	5.8640	.0362	.0113	.0082	.0113	.0081	6.80
7.82	.3840	.0175	.3780	.0696	5.4336	.0399	.0114	.0082	.0113	.0081	7.82
8.79	.4274	.0181	.4196	.0832	5.0440	.0433	.0116	.0082	.0114	.0081	8.79
					M= 1.70, RE/M= 6.6 MILLION						
-.18	.0200	.0141	.0201	.0140	1.4328	.0068	.0106	.0076	.0106	.0075	-.18
1.83	.1086	.0144	.1081	.0179	6.0430	.0150	.0106	.0076	.0106	.0076	1.83
3.84	.1967	.0152	.1952	.0283	6.8903	.0229	.0107	.0077	.0106	.0077	3.84
5.84	.2844	.0161	.2813	.0449	6.2590	.0305	.0107	.0078	.0106	.0076	5.84

TABLE C1.- FLAT WING FORCE AND MOMENT DATA, FREE TRANSITION, CONCLUDED.

ALPHA, DEG	CN	CA	CL	CD	L/D	CM	CAC	CAB	CDC	CDB	ALPHA, DEG
M= 1.86, RE/M= 6.6 MILLION											
-3.94	-.1385	.0127	-.1373	.0222	-6.1971	-.0082	.0099	.0070	.0099	.0069	-3.94
-1.99	-.0580	.0125	-.0576	.0145	-3.9603	-.0015	.0099	.0070	.0099	.0069	-1.99
-.98	-.0146	.0129	-.0144	.0131	-1.0990	.0024	.0099	.0070	.0099	.0069	-.98
.06	.0299	.0134	.0298	.0134	2.2240	.0066	.0099	.0070	.0099	.0069	.06
1.05	.0711	.0138	.0709	.0151	4.6916	.0104	.0099	.0070	.0099	.0069	1.05
2.06	.1118	.0141	.1112	.0181	6.1505	.0140	.0099	.0070	.0099	.0069	2.06
4.05	.1945	.0151	.1930	.0288	6.7060	.0212	.0099	.0070	.0099	.0069	4.05
6.05	.2727	.0161	.2715	.0449	6.0443	.0282	.0098	.0070	.0098	.0069	6.05
M= 2.00, RE/M= 6.6 MILLION											
-4.28	-.1433	.0123	-.1420	.0230	-6.1813	-.0091	.0093	.0063	.0093	.0062	-4.28
-2.28	-.0652	.0125	-.0647	.0151	-4.2915	-.0023	.0093	.0063	.0093	.0062	-2.28
-1.29	-.0271	.0125	-.0268	.0131	-2.0446	.0012	.0093	.0063	.0093	.0062	-1.29
-.29	.0119	.0128	.0120	.0128	.9389	.0048	.0092	.0063	.0092	.0062	-.29
.71	.0529	.0133	.0527	.0140	3.7664	.0083	.0093	.0063	.0093	.0062	.71
1.70	.0901	.0138	.0896	.0164	5.4562	.0118	.0093	.0063	.0093	.0062	1.70
3.72	.1676	.0146	.1663	.0255	6.5278	.0186	.0092	.0063	.0092	.0062	3.72
5.69	.2427	.0157	.2400	.0397	6.0509	.0251	.0091	.0063	.0091	.0062	5.69
M= 1.62, RE/M= 13.1 MILLION											
-.21	.0183	.0156	.0184	.0157	1.1693	.0075	.0095	.0081	.0095	.0061	-.21
1.85	.1132	.0163	.1126	.0200	5.6386	.0161	.0095	.0061	.0095	.0081	1.85
3.84	.2042	.0170	.2026	.0307	6.6070	.0247	.0096	.0081	.0096	.0081	3.84
5.83	.2943	.0180	.2910	.0478	6.0833	.0329	.0097	.0082	.0097	.0081	5.83

1. Report No. NASA TP-1759	2. Government Accession No.	3. Recipient's Catalog No.

4. Title and Subtitle PRESSURE AND FORCE DATA FOR A FLAT WING AND A WARPED CONICAL WING HAVING A SHOCKLESS RECOMPRESSION AT MACH 1.62	5. Report Date April 1981
	6. Performing Organization Code 505-31-43-01
7. Author(s) David S. Miller, Emma Jean Landrum, James C. Townsend, and William H. Mason	8. Performing Organization Report No. L-13856
9. Performing Organization Name and Address NASA Langley Research Center Hampton, VA 23665	10. Work Unit No.
	11. Contract or Grant No.
12. Sponsoring Agency Name and Address National Aeronautics and Space Administration Washington, DC 20546	13. Type of Report and Period Covered Technical Paper
	14. Sponsoring Agency Code

15. Supplementary Notes

David S. Miller, Emma Jean Landrum, and James C. Townsend: Langley Research Center.
William H. Mason: Grumman Aerospace Corporation, Bethpage, New York.

16. Abstract

A conical nonlinear flow computer code was used to design a warped (cambered) wing which would produce a supercritical expansion and shockless recompression of the crossflow at a lift coefficient of 0.457, an angle of attack of 10°, and a Mach number of 1.62. This cambered wing and a flat wing with the same thickness distribution were tested over a range of Mach numbers from 1.6 to 2.0. For both models the forward 60 percent is purely conical geometry. Results obtained with the cambered wing demonstrated the design features of a supercritical expansion and a shockless recompression, whereas results obtained with the flat wing indicated the presence of crossflow shocks. Tables of experimental pressure, force, and moment data are included, as well as selected oil flow photographs.

17. Key Words (Suggested by Author(s)) Conical flow Shockless recompression Supersonic flow Supercritical crossflow High-lift wings Experimental pressures	18. Distribution Statement Unclassified – Unlimited Subject Category 02

19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 234	22. Price* A11

* For sale by the National Technical Information Service, Springfield, Virginia 22161

NASA-Langley, 1981

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June 15, 1981